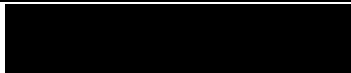




**Phase I Site Investigation: Mid Lenshie steading & bothy,
Rothienorman, Aberdeenshire, AB51 8XU**

Planning reference: APP/2021/0232

Project no:	ESL2127
Version no:	1
Status:	Final
Date of Release:	01/04/2021
Prepared on behalf of:	Mr Peter Forsyth
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APPENDIX C: Site photos

APPENDIX D: Site plans

1. Introduction

1.1 Background

EnviroSurveying Ltd (ESL) was pleased to provide a proposal to John Wink Design (the agent) on behalf of Mr Peter Forsyth (the client) to carry out a Phase 1 desktop investigation on farm buildings at Mid Lenshie, Rothienorman, Aberdeenshire, AB51 8XU, in order to determine whether contamination of the land has occurred from past/current use of the site. The site is a (former) farm. A planning application has been submitted for Full Planning Permission to demolish the farm steading and bothy on site and erect 4 new homes (planning ref: APP/2021/0232). Farms can be at risk from impact by fuel storage, machinery maintenance, burning of rubbish, asbestos, animal manure, and silage effluent, among other things.

During the planning consultation the contaminated land officer at Aberdeenshire Council considered the site and requested further information. The first stage of this is a Phase 1 desktop study. The Phase 1 desktop study determines the presence and degree of any risk present and allows confirmation of any potential issues that the site may have. Often a Phase 1 report is sufficient to assess risk. However, it is possible this desktop work will indicate that an exploratory Phase 2 site investigation may be required. The Phase 1 desktop therefore uses thorough research to ensure the Phase 2 site works are targeted to be the most efficient they can be.

1.2 Objectives

The specific objectives of the site investigation are as follows:

- to undertake a site investigation (Phase 1) according to BS10175:2011:A2: 2017 *Investigation of Potentially Contaminated Sites* (BSi, 2017);
- to identify all potential and significant sources of contamination, pathways and receptors at the site;
- to assess and evaluate the risk of significant harm occurring to one or more of the site receptors; and
- to recommend and specify further investigative works if appropriate.

1.3 Scope

The following Phase 1 scope is proposed:

- a site reconnaissance will be carried out to make visual observations of all potentially significant sources and pathways at the site, and to set the site in context with the surrounding area. Details of other features, such as structures, building fabric, electrical substations, drainage systems, chemical substances used, fuels, storage vessels and storage areas; condition of the floor slab, permeable and impermeable areas, waste generation and storage tanks, watercourses, etc, will also be recorded;
- a desk study will comprise of reviewing all published sources of information including historical maps, geological, hydrological and hydrogeological information;
- information will also be collected from the Council on records of any historic incidents/complaints; (please note, due to a cyber attack on SEPA it is currently not possible to obtain a FOI search at present); and
- anecdotal evidence will be collected by undertaking interviews with former staff/site owners, where possible.

Once both the site reconnaissance and desk study are complete, it will be possible to identify all sources, pathways and receptors at the site and any potential pollutant linkages. The significance of these pollutant linkages will be assessed by carrying out a preliminary risk assessment, and thereafter the overall risk to site receptors will be evaluated. The information will be presented graphically as a conceptual site model.

If the overall risk to site receptors is identified as moderate or high, it may be necessary to carry out an intrusive site investigation (Phase II). The results of the Phase I site investigation could be used to justify and formulate a Phase II strategy, with the objective of confirming/confuting the potential pollutant linkages identified.

1.4 Report structure

The Phase I site investigation was carried out in accordance with BSi 10175, 2011:A2:2017, through a walkover visit and desk study. This document is structured as follows:

Section 2 Site location & description

Section 3 Site history

Section 4 Site geology

Section 5 Hydrology and hydrogeology

Section 6 Other information on surrounding area

Section 7 Conceptual site model

Section 8 Summary

Section 9 Recommendations

Section 10 References

Section 11 Disclaimer

2. Site location & description

The site is located approximately 4 miles NW of Rothienorman as the crow flies, on the SW slope of Lenshie Hill. It is reached via the B9001 5 miles NW of Rothienorman. From the B9001, there is a small unclassified road leaving to the North at Newton Thorneybank and heading towards Lenshaw and Upper Lenshie. Around 200m along this road, the farm access road leads off to the North, just past the cottages, and the site is located approximately 250m along it. A new access track has been formed leading to the farmhouse just beside the site, rather than the original access which came in close to the bothy. A new bridge over the Lenshie Burn has been formed to replace the original old one.

The grid reference is 367341, 841113 for the centre of the site and the postcode is AB51 8XU. The site area is approximately 1.23 hectares.

The site walkover took place on 23rd March 2021. The original position of the farm steading here was around 45m SE of where it is now. The farm buildings used to be directly north of the current farmhouse. It was called Backhill of Lenshie at that time and can be seen in the 1910 OS 1" map, but by 1929, the OS 1" map has it in the current position seen today. No information about the reason for the demolition and replacement has been found. Indeed, it could be that the farm buildings were dismantled and rebuilt in the new location. The Bothy is situated to the West of main steading building and sits within its own garden ground.

The site walkover began at the bothy building, on the far west side of the site. This small single storey building sits within its own fenced garden, which is grassed over with mature trees at the foot of the sloping garden. The Lenshie Burn flows past the southern boundary of the site. The bothy building is stone with a corrugated metal roof. It has 3 sections to it. The west end is an animal shelter and is open to the south side. The roof is collapsing here, and a metal tank has been used to support it from collapse. The central and east end sections are reached via a person door in the middle of the building. The middle section is a single room with fireplace. The east end is also a single room which was used for human habitation. However, it has later been penned off to keep small animals, such as chickens, in the past.

Farmland climbs away to the north behind the bothy and a vehicle track leads back towards the main farm site. There is an open grassy area to the west side of the main steading and there are piles of steel girders and metal sheets stored here. We believe these are from the dismantling of the yard covers placed over the east and west sides of the yard, added in the last 15 years.

The west side of the steading (2a) is seen first on approach and is solid stone with a good slate roof. This space has a large front door to the south façade, this was locked but we were able to see inside by accessing it from the back NW corner, where it was clear the space was concreted inside and empty. The steading has been annotated into sections named 2a/b/c/d/e to aid description, although in reality it is all one building- with the exception of 2d which was a lean-to added on later to house an electric grain dryer.

The rear section (2b) meets 2a at the NW corner of the shape. This is also stone with a slate roof. Inside the floor is concrete and there is low raised walkway along the north side, lower than we would normally see for cattle so this may be for sheep. This space was largely empty except for plastic bags of firewood and empty plastic feed pellet buckets.

Moving along the rear of the building there is an open grassy area within the site boundary and separated from the field to the north by a post and wire fence. On the centre of the north façade there is a projection from the building (annotated 2e). This is also stone with a slate roof and a concreted floor inside. This was empty but the electrics for the grain dryer could be accessed on the wall here. The grain dryer itself is within a stone lean-to (annotated 2d). This has a corrugated metal roof, and the structure appears to be of some age. The grain dryer remains inside but clearly has not been used in some time. A rusting invalid carriage dating back to the 1930's and 40's lies beside it.

Inside section 2e it is possible to see through to the centre of the steading. The wooden grain chutes and drying frames are all still here. Moving along the rear of the steading the north east end was also slate roofed with stone walls and in intact condition. This has an opening on the east façade, but this was locked. Access was gained from inside wing named as 2c and showed this area to be concreted and used for small amounts of livestock. There was no odour here although some straw remained. Section 2c is also largely intact, although a part of the slate roof has been replaced with newer corrugated metal. This long narrow building was open to the south side, has a concrete floor, and currently contains only some furniture.

At this point a clear view of the courtyard is seen. The whole yard is concreted, and this looks relatively new. There is evidence of steading collapse around the outer edges, where the soil below the building walls is eroding. There has been some attempt to shore this in the past with concrete block retaining walls, but these are also collapsing. Holes in the concrete remain where steel posts were once inserted. This area was covered first on the west side (3) between 2003 and 2006, and later on the east side. (4)

The final building within the site today is annotated 5. This is a very small stone bothy with a single chimney. It is fully intact, has a slate roof and cast-iron guttering.

The surrounds on all sides are open farmland, used for sheep grazing in the main. The farmhouse lies outside the site to the SE corner. There is no trace of the original location of the farms buildings on the adjacent farmland.

2.1 Underground structures

There are not known to be any underground structures at the site.

2.2 Drainage

Foul water will be disposed through a septic tank to a soakaway with the surface water also disposing to a soakaway.

2.3 Chemical substances and formulations used

There is no known chemical storage or fuel storage on the site.

2.4 Waste

There is no evidence of waste stored on the site, with the exception of the normal domestic debris.

2.5 Environmental management systems

The site is not subject to Environmental Management System (ISO 14001) accreditation.

2.6 Permits and licences

The site is not known to be subject to any permits or licences relating to potential contaminants.

3. Site history

3.1 Historical maps

Historical maps of the site and surrounding area have been obtained and are provided in Appendix B. The earliest site map available was 1871. The main features of the historical maps are shown below in Table 1. Not all are listed where no further information can be gained. As there is long gap between maps (1902 - 1955), the 1" OS maps for 1910 & 1929 have also been referred to but not included in Appendix B.

Table 1 Summary of historic maps

Year/s	Site	Adjacent areas
1871 1:2,500 & 1:10,560 (the NW corner of this map is missing)	There are 4 buildings on site at this time: The Bothy (Building 1 on our Annotated plan in Appendix D), which has a small building to the W of it; and 2 rectangular buildings in the SE corner, both parallel to the track that runs through the site from W - E. There is also a Horse Whim just inside the SE site boundary. The Bothy and its outbuilding have some garden areas to the S of them, at the South end of which is the Lenshie burn lead flowing in a south-easterly direction. The site is called Backhill of Lenshie at this time.	Immediately outside the SE site boundary is the original U-shaped farm steading with an extension on its N side. The open end of the U faces SSW, to the farmhouse. There is a row of 3 buildings to the E side of the farmhouse. A track leads off to the SE from the S end of the steading - a continuation of the track through the site. There is a pond with a Sluice around 120m NW; a Corn Mill around 180m S that also has a pond with a Sluice; and immediately W of the pond is a collection buildings most likely forming another farm. The Croft of Backhill of Lenshie is around 300m NW, with a Ford and a Well to the NW of it, and there is what appears to be another mill lead at the S end of it entering the pond that is NW of the site, although the building there appears not to have a roof and it is not labelled as anything. Newtown of Thornybank is around 300m S of the site and the Mill Lead continues in a south-easterly direction to another pond with a Sluice situated about 700m SE. There is boundary line following the route of the lade or burn to the S & NW of the site, which indicates both a Civil Parish boundary and the centre of a stream, along with a District Boundary.
1901 1:2,500 & 1902 & 1:10,560	The small outhouse West of the Bothy has now gone.	The North side of the steading has lost its extension but there is a new one at the NE corner of the E side, a lean-to further down that side and a separate building to the E of the S end of it. There is now a Smithy at Newtown of Thorneybank ('e' added since last map). The Croft of Backhill of Lenshie has now gone, as has the pond and the Ford. Downstream of the site the burn is named as the Burn of Lenshie. There is now a Quarry marked about 700m SE, adjacent to the pond.
1910 1" OS map	No changes visible at this scale.	The farm steading appears to be in its original position on this map. The Quarry isn't marked on this map.
1929 1" OS map	The steading is now on the planning site, although the U-shape is not discernible on a map of this scale.	Neither the Smithy nor the Mill are marked on this map.

1955 1:10,560	The steading on site has the current shape today, although the west side does extend further north than today (2a). So buildings 2a, 2b, 2c, 2d, 2e and 5 are present. There is an extra small building to the NW corner of building 5, in the courtyard, and an extra building to the north side of the main steading. Lean-to 2d is not present. The site is now called Mid Lenshie. The Horse Whim is no longer marked.	The farmhouse and the line of buildings to the E of it are no longer there and there is a new L-shaped building SW of the SW corner of the steading. This is the current farmhouse. Both the Smithy and the Quarry are marked on this map, although the pond adjacent to the Quarry has gone. The Mill is no longer there and neither is its pond. The boundary S of the site is now labelled as the County Constabulary & District Boundary.
1981/2 1:2,500 & 1982 1:10,000	Building 2d is now visible, there is an extension into the courtyard from the south face 2b. The building to the north of the steading is now unroofed. There is a small building at the NW corner of the join between 2a and 2b.	The corn Mill to the S is now called Gariochsford Mill, but there is no sign of the pond or sluice. There is a Hydraulic Ram around 200m SE of the site and the Smithy is no longer marked. The Quarry is now labelled Disused. The whole of what was labelled as a Mill Lead is now labelled as the Burn of Lenshie.
2001 1:10,000 & 2003 1:1,250	Arrangement of buildings on site on the large scale map is very clear but there are no apparent changes.	The route of the Burn of Lenshie is clear on the 2001 map.
2010 & 2021 1:10,000	By 2010, the W half of the yard has been roofed and by 2021, the E half has as well. This can also be seen in the aerial photos from 2010, 2015 and 2018. The photo from 2006 shows that only the west side (annotated 3) has a roof over it and the east side (annotated 4) is open yard. By 2010 the building inside the courtyard at right angles to building 5 is gone, as are the 2 buildings lying north of the main steading. They are removed between 2003 map and the 2006 aerial photo.	By 2010, there is a large area of woodland around 400m NW.

3.2 Internet searches

Additional web searches have been carried out to gain a fuller picture of the site history. The search terms used were “Backhill of Lenshie”, “Mid Lenshie (farm/steading)” and “Gariochsford” as well as geographic location searches. Also, alternative spellings: Leinshea and Lenshy, neither of which had any results in the searches. Distinction should be made between the various “Lenshie” buildings, not all of which refer to the site.

Searches were made of the following locations:

Google - search brings up a list of farmers near Fyvie, in which JH Roberts of Mid Lenshie is listed. There is a link to Aberdeen & Northern Marts (<https://www.anmarts.co.uk/event-details.cfm/eID/1591>) where there are 69 photos of various items of farm equipment and machinery, presumably for sale, but no date or other information. The photographs show the site as tidy and clean with the items for sale neatly presented. We understand this was following the death of the farmer in 2015 and the sale was within that year most likely.

A search for Mid Lenshie also brings up the information that Scottish-Places (see below) has Mid Lenshie listed as being in the Parish of Fergie rather than Auchterless, which is where it is,

although it is very close - the farm is in the Parish of Auchterless, but part of the farm track appears to be in the Parish of Forgue.

Past Map (<http://pastmap.org.uk>) - the site has a Historic Environment Record (HER) listing, ID NJ64SE0033, Backhill of Lenshie, with the following information:

Farmstead, still in use, that has replaced an earlier one depicted on the 1867 1st edition OS map. The earlier farmstead stood to the southeast of the current farmstead, depicted on the 1st and 2nd edition OS maps as a rectangular farmhouse with a garden, a rectangular building, and a G-shaped steading complex with an attached horse-gang, with a bothy to the west. By the 2nd edition map a further rectangular building had been built on the south side of the steadings but the horse-gang had gone. The farmhouse has also been demolished and a new L-shaped one built to the west, where it is still in use today. By the 5th edition OS map of circa 1945, the entire steading complex (excluding the bothy and farmhouse) had been demolished and rebuilt a short distance to the west, an E-plan main steading open to the southwest with outbuildings to the northeast and southwest. A mill stood to the north west, shown connected to the farm by a footpath on historical mapping ([NJ64SE0032](#)). **Last**

Update 10/03/2021

Updated By C Herbert

There is also an HER listing for Croft of Backhill of Lenshie, ID NJ64SE0032, with the following information:

Site of a now destroyed croft that is depicted on the 1867 1st edition OS map but not on the 1888 2nd edition one. The map shows a T-shaped steading with an attached horse-gang, a rectangular building, a L-shaped enclosure that may be a pond, and a lade system with a pond and sluice to the south. A farmstead to the south east, shown connected to the mill by a footpath on historical mapping ([NJ64SE0033](#)) [This is the site to which this report relates].

Nether Lenshie, to the SE of the site, also has an HER listing, ID NJ64SE0049, with the following information:

Farmstead still in use. On the 1st edition OS map it is shown as a collection of six buildings with three enclosures. The southernmost building is possibly a mill as the Burn of Lenshie, which runs immediately to the south of it, is marked as a mill lade and there is a pond to the west of the building. The northernmost building has an attached rectangular enclosure. By the 2nd edition OS map one of the larger buildings has been extended into a H-shaped building. The 2006 map shows that the H-shaped building and two others, one to the south-west and another to the south-east are still in use. All the other buildings and enclosures have been removed. The pond is not in use and is drained, but its site has not been redeveloped.

Lastly, the Quarry to the SE also has an HER listing, ID NJ64SE0050, Lenshie Burn, Remains of a quarry which is shown on the OS maps from the 1st edition OS map onwards.

Royal Commission on Ancient & Historical Monuments of Scotland (RCAHMS) (<http://www.rcahms.gov.uk>) - see Past Map above (Past Map is the map base for RCAHMS)

Geograph (<http://www.geograph.org.uk>) - has a photograph by Anne Burgess, 2008, of the farm with Lenshie Hill, on which the site is located, quite obvious. The route of the burn can also be seen and there are sheep in the field. The E part of the steading yard is not covered at this time.

SCRAN (<http://www.scran.ac.uk>) - no further information

Derelict Places (<http://www.derelictplaces.co.uk>) - no further information

Old Maps Online (<http://www.oldmapsonline.org>) - has the two 1" OS maps referred to in the above map table. James Robertson's, 1822 map and John Thomson's 1832 map both have Leinshea (Lenshie) on them. (Included for the alternative spelling.)

Old-maps (www.old-maps.co.uk) - no further information

Scottish Places (<http://www.scottish-places.info>) - Mid Lenshie is listed as a settlement in the parish of Auchterless.

Scotland's Places (<http://www.scotlandsplaces.gov.uk>) - Backhill of Lenshie is listed in the Aberdeenshire OS Name books, 1865 - 1871, Volume 7, page 31, as "A small farm stead, on the property of the late Gordon Hatton Esqr. John Peter tenant."

NCAP (National Collection of Aerial Photography) (<https://ncap.org.uk>) - no further information

Get Mapping (<https://www.getmapping.com>) - has aerial photographs from 2006, 2010, 2015 & 2018. In the 2006, 2015 & 2018 photos, there is what looks like it could be part of the old steading in the form of a length of wall to the N of the farmhouse and E of the steading, Building 2c.

Grid Reference Finder (<https://gridreferencefinder.com>) - used for measuring distances

The overall review confirms that the site was not involved in water milling, but that the horse-gang/horse whim was used for grain milling or threshing, before the move to the new location and the eventual replacement with an electric mill.

3.3 Other information

3.3.1 From the client

James Hall is buying the site from Peter Forsyth, specifically to develop. Peter Forsyth is a farmer, and he bought the site from J.H. Roberts estate in Spring 2017 but rented it from him for a few years before that. At the time Mr Forsyth began renting he believes the buildings had been unused for 4-5 years (we understand Mr Roberts may have died in 2015). When in use they were for grain storage and small amounts of livestock, mainly sheep.

The main reason for rental and purchase was for the associated farmland and they have made little use of the buildings. As they are not required and in very poor structural condition, they are most suited for re-development and are therefore being sold.

Mr Forsyth says he was not aware of any specific fuel storage on the site when he first started to use the adjacent land around 2012, and he noted that they did not find any tank stand or stains when they first rented the buildings. They noted that there was a single green plastic bunded fuel tank for sale in the farm roup for Mr Roberts, and so assume this is the only tank.

3.3.2 Planning

There is an older planning application (APP/2018/2395) for the formation of an access road. This is proposed to run to the E and N of the site instead of the current access road, which is on the W of the site. It was approved in February 2019 and the plan is in Appendix D. This was the access used during the site visit.

3.3.3 Farming

A search for Mid Lenshie farm roup brought up the following information from a sale by Aberdeen and Northern Marts, Weekly Sale of young and weaned calves, young bulls and store cattle on 14th April 2017:

24 animals, RJ Hay, Mid Lenshie

(<http://www.anmarts.co.uk/documents/events/1539/15%20TLC%20Stores%2014.4.17.pdf>)

Also an article in The Scottish Farmer, March 6th 2016, Store and special sales, where heifers, 651 - 700kg were listed at Mid Lenshie, with their price.

(https://www.thescottishfarmer.co.uk/business_sales/14369577.special-sales-in-the-march-12-issue)

And another article in The Scottish Farmer, dated 3rd November 2014, Round up of special sales, where there are listings for:

(https://www.thescottishfarmer.co.uk/business_sales/14365391.round-up-of-special-sales-issue-november-1-2014)

3.4 Aberdeenshire Council records

Aberdeenshire Council were contacted regarding the site and the information supplied is included below. Comment by ESL is in black text alongside it:

It is confirmed that no records are held by the Environmental Health Service relating to complaints, incidents, historic petroleum licences and previous investigations in respect of the premises or the farmhouse. A private water supply header record is held for Mid Lenshie, however no specific information on the supply is available.

We have undertaken a full search for the information you have requested. However, we do not hold this information. We therefore have to notify you that the following exception from the Regulations applies:-

Regulation 10(4)(a) – Information Not Held

The environmental information is excepted if the Council does not hold that information when the applicant's request is received.

SEPA is unable to respond to routine FOI's at this time due to a cyber-attack.

4. Geology

4.1 Site geology

Reference has been made to the Groundsure Enviro + Geo Insight Report shown in Appendix A.

The superficial geology is formed of Devensian till of Diamicton rock type. The bedrock underlying the site is of MacDuff formation - Micaceous psammite, semipelite and pelite.

There are no records of landslips within 500m.

There are no records of faults within 500m.

There are no current or historical ground workings on the site.

There is negligible risk potential for compressible deposits and soluble rocks, and very low risk of shrink-swell effects, running sand, collapsible rocks and landslides. None of these require any special action.

4.2 Made ground and infilled land

There are no records of made or artificial ground within 500m.

5. Hydrology, topography and hydrogeology

5.1 Topography

The site slopes downwards to the SW (towards Lenshie Burn) and there is a topographical survey on the Existing Site Plan (Appendix D).

5.2 Hydrology

There is negligible risk of river and coastal water flooding; a low risk of groundwater flooding based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM); and a 1 in 30 year chance of river or surface water flooding.

The nearest main moving water body is the Lenshie Burn, at the S end of the site.

5.3 Hydrogeology

The permeability of the superficial ground ranges from high to low with mixed flow types. There is no information regarding superficial aquifers.

The permeability of the solid layers is low and of the fracture type. There is a low productivity aquifer on site in which flow is virtually all through fractures and other discontinuities, with small amounts of groundwater in near surface weathered zone and secondary fractures.

There are no records of BGS boreholes within 250m of the site.

6. Other information on surrounding area

Environmental information on the surrounding area is provided in the Groundsure Enviro + Geo Insight Report in Appendix A.

6.1 Past land use

6.1.1 Historical industrial land use

There are 6 records of past land use within 500m for the site: 156m S, Unspecified Mill, 1902; 197m S, Corn Mill, 1871 - 1902; 286m, 287m & 295m S, Smithy, 1902 & 1955; and 471m SW, Unspecified quarry, 1871.

~There are no records of Historical tanks, Historical energy features, Historical petrol stations, Historical garages or Historical military land within 500m.

6.2 Waste and landfill

There are no records of Active or recent landfill sites, Historical landfill sites (BGS records), Historical landfill (LA/mapping records), Licensed waste sites or Historical waste sites within 500m of the site.

6.3 Current industrial land use

There is 1 record of a Recent industrial land use within 250m: 217m S, Hydraulic Ram.

There are no records of Current or recent petrol stations; Electricity cables; Gas pipelines; Sites determined as Contaminated Land; Control of Major Accident hazards (COMAH); Regulated explosive sites; Hazardous substance storage/usage; Part A(1), IPPC and Historic IPC Authorisations; Part B Authorisations; or Pollution inventory substances, waste transfers or radioactive waste.

6.4 Environmental designations

The site is not within 2000m of any SSSIs, Ramsar sites, Special Area of Conservation (SAC), Special Protection Areas (SPA), a National Nature Reserve (NNR), a Local Nature Reserve (LNR), Designated Ancient Woodland, a Biosphere Reserve, Forest Park, or a Marine Conservation Zone.

6.5 Visual and cultural designations

There are no records of World Heritage Sites, Areas of Natural Outstanding Beauty (AONBs), National Parks, Listed Buildings, Conservation Areas, Scheduled Ancient Monuments or Registered Parks and Gardens within 250m of the site boundary.

6.6 Agricultural designations

There are 2 records of agricultural land classification within 250m of the site: on site, Grade 3.2; and 210m SE, Grade 4.2. Both these grades refer to Land Suited to Arable Cropping.

6.7 Mining, ground workings and natural cavities

There are 4 records of Surface ground workings within 250m of the site: 118m NW, 1871 and 179m S, 1902, all for a Pond.

There are no records of Natural cavities or BritPits within 500m; no records of underground workings within 2000m; no records of Historical Mineral Planning Areas within 500m; no records of Non-coal mining or Mining cavities within 1000m and no records of JPB mining areas, Coal mining, Brine areas, Gypsum areas, Tin mining or Clay mining on site.

6.8 Radon

The site is within a radon gas area. The estimated probability of a property being above the Radon action level is between 1% and 3%. Stage 1 radon protection measures are advised.

6.9 Estimated background soil chemistry

There is 1 record of Estimated Background Soil Chemistry for the site, details of which can be found in Appendix A, Section 20.1.

6.10 Railways and tunnels

There are no records of Railways, Sidings or Tunnels, either historical or current, within 250m of the site.

7. Conceptual site model

7.1 Sources

The site is a former farmstead with the buildings all being constructed around 100 years ago, potentially re-built from older buildings, and therefore there are no new sheds or temporary lean-to type constructions as found on most farms. Most recently it was used for grain storage and some sheep/cattle but farming use since 2012 has been limited to storage. There is no evidence of a sheep dip or wash on or anywhere near the site, no slurry collection system or manure heaps. There is no evidence of any impact of fuel storage and no fire sites visible.

The site walkover found that there were no asbestos products and that the site was in a clean and tidy state.

There are no records of petroleum licences for the site and no evidence there was ever fuel stored there. There was a single green plastic bunded fuel tank for sale in the farm roup and it is assumed that that was the only tank.

There are no other likely sources known to exist on or near the site.

7.2 Pathways

Given the objectives of the site assessment, pathways that impacted upon human and ecological receptors (e.g. groundwater) are considered. Therefore, the main pathways hypothesised were:

- migration of contaminants within the soil at the site to sensitive site receptors via inhalation of dust
- migration of contaminants within the soil at the site to sensitive site receptors via inhalation of vapour
- migration of contaminants within the soil at the site to sensitive site receptors via ingestion of soil
- migration of contaminants within the soil at the site to sensitive site receptors via dermal contact with soil;
- migration of contaminants from the site to the groundwater via the soil; and
- migration of contaminated groundwater or surface water to and/or from receptors outside the site boundary
- Migration of contaminated groundwater into private water supplies or affecting water supply pipes
- Direct contact with buildings

7.3 Receptors

For the site assessment, the receptors being considered are:

- sensitive site receptors (human residents, visitors and site workers);
- Water bodies (groundwater, potable water and surface water).
- Future buildings

7.4 Initial qualitative risk assessment

The sources, pathways and receptors identified above can now be qualitatively risk assessed: the assessment is presented in Table 2.

Potential risk severity: 1 = Minor; 2 = Mild; 3 = Medium; 4 = Severe

Probability: 1 = unlikely; 2 = low likelihood; 3 = likely; 4 = High likelihood

Table 2 Initial qualitative risk assessment for Mid Lenshie, Rothienorman

Area	Source: contaminants	Pathway(s)	Receptor(s)	Potential Consequence	Potential Probability	Potential Risk severity	Assessment
Most recent & only known site use							
Possible Livestock farming	Organic waste generating ground gases	Through soil (Inhalation)	Human	Asphyxiation in enclosed spaces	Low likelihood	Medium	There is the possibility that there were cattle on the farm in the past so care should be taken during any site works and should any odours be apparent that ground should be stripped away and removed from site. The buildings appeared clean and with no odour and floors in good condition however. All yard areas were all concreted.
		Groundwater migration	Groundwater	Contamination of groundwater	Low likelihood	Medium	
		Soil gas or GW migration	Buildings	Accumulation - explosion	Low likelihood	Medium	
Fuel storage	TPH, metals	Through soil (Inhalation, ingestion, dermal contact)	Human	Ill health	unlikely	Medium	There was no petrol storage at the site. There may have been a green plastic diesel tank at the site, although the only evidence of this was the sale of one in the farm roun. There is no indication of staining or bunds on the site, and no-one recalls seeing a tank. The chance of fuel impact is very unlikely.
		Through soil migration	Groundwater	Contamination of groundwater	unlikely	Medium	

8. Summary

A Phase I site investigation has been carried out at Mid Lenshie, Rothienorman, Aberdeenshire, AB51 8XU.

The site contains a large U-shaped traditional stone steading building, with a small detached stone bothy at the edge of this, and a further slightly larger bothy sitting to the west side in its own garden. The buildings themselves may be older than the 100 years they have been located on this site. It appears they were once located further east, lying to the immediate north of the farmhouse. However post-1901 they were dismantled and moved into the current location. They appear to have been very well maintained over the years, and the slate roofing is all in good condition. There has been no replacement with asbestos sheeting as is often found in farms of this age.

The central courtyard area was capped with concrete and a steel frame was used to cover first the west side and later the east side, within the last 20 years. The remains of these metal buildings can be seen on the grass to the west side of the steading. The main steading is set on a slightly sloping hillside, and it is apparent that the ground below the walls is eroding on the south side, and the walls becoming unstable.

Overall, the farm looks to have been well cared for and we noted no likely signs of contamination. As with all former farms we recommend that should any signs of ground impacted by animal manure be found during site works then these soils should be excavated out and removed from site, and not buried close by. This will prevent the migration of methane and carbon dioxide into the new homes. However, we noted only solid concrete floors and no odour, so this risk is deemed low.

We therefore have no concerns regarding contamination risk at this site, based on all the information available, and do not recommend any further works. The site appears fully suitable for the proposed housing development.

9. Recommendations

The information collected was used to identify all potential sources, pathways and receptors at the site and carry out a qualitative risk assessment of possible pollutant linkages.

We do not recommend any further works are required.

10. References

BGS/SEPA, 2004b, Bedrock Aquifer map,

http://www.sepa.org.uk/pdf/groundwater/tools/bedrock_aquifers.pdf.

BGS/SEPA, 2004c, Vulnerability of Groundwater in the Uppermost Aquifer map,

<http://www.sepa.org.uk/pdf/groundwater/tools/vulnerability.pdf>.

BSi, 2017, BS10175:2011:A2:2017 Investigation of potentially contaminated sites: Code of practice, British Standards Institute (BSI).

CIRIA, 2001, Contaminated Land Risk Assessment, A guide to good practice. Publication C552, 2001.

BGS 1:50,000 classification sheets.

11. Disclaimer

EnviroSurveying Ltd has prepared this report for the sole use of the Clients, in accordance with generally accepted consulting practice and for the intended purpose as stated in the related contract agreement. No other warranty, expressed or implied, is made as to the professional advice included in this report.

To the best of our knowledge, information contained in this report is accurate at the date of issue; however subsurface conditions including contamination concentrations may vary spatially and with time. It should be noted, however, that this report is based on information obtained from the site investigation works. There may be conditions pertaining at the site not disclosed by these investigations, which might have a bearing on the recommendations provided if such conditions were known.

It is important that these implications be clearly recognized when the findings of this study are being interpreted.

APPENDICES

APPENDIX A - Enviro + Geo Insight Report

MID LENSHE, ROTHENORMAN, AB51 8XU

Order Details

Date: 19/03/2021
Your ref: ESL2127
Our Ref: GS-7673890
Client: EnviroSurveying Ltd

Site Details

Location: 367341 841113
Area: 1.23 ha
Authority: [Aberdeenshire Council](#)



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Summary of findings

p. 2

Aerial image

p. 7

OS MasterMap site plan

p.11

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
12	1.1	<u>Historical industrial land uses</u>	0	0	2	4	-
13	1.2	Historical tanks	0	0	0	0	-
13	1.3	Historical energy features	0	0	0	0	-
13	1.4	Historical petrol stations	0	0	0	0	-
14	1.5	Historical garages	0	0	0	0	-
14	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
15	2.1	<u>Historical industrial land uses</u>	0	0	4	5	-
16	2.2	Historical tanks	0	0	0	0	-
16	2.3	Historical energy features	0	0	0	0	-
16	2.4	Historical petrol stations	0	0	0	0	-
17	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
18	3.1	Active or recent landfill	0	0	0	0	-
18	3.2	Historical landfill (BGS records)	0	0	0	0	-
18	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
18	3.4	Licensed waste sites	0	0	0	0	-
18	3.5	Historical waste sites	0	0	0	0	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
19	4.1	<u>Recent industrial land uses</u>	0	0	1	-	-
20	4.2	Current or recent petrol stations	0	0	0	0	-
20	4.3	Electricity cables	0	0	0	0	-
20	4.4	Gas pipelines	0	0	0	0	-
20	4.5	Sites determined as Contaminated Land	0	0	0	0	-
20	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
21	4.7	Regulated explosive sites	0	0	0	0	-



21	4.8	Hazardous substance storage/usage	0	0	0	0	-
21	4.9	Part A(1), IPPC and Historic IPC Authorisations	0	0	0	0	-
21	4.10	Part B Authorisations	0	0	0	0	-
21	4.11	Pollution inventory substances	0	0	0	0	-
22	4.12	Pollution inventory waste transfers	0	0	0	0	-
22	4.13	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
23	5.1	Superficial aquifer	None (within 500m)				
24	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
25	6.1	<u>Water Network (OS MasterMap)</u>	0	3	2	-	-
26	6.2	<u>Surface water features</u>	0	2	2	-	-
Page	Section	River flooding					
27	7.1	River flooding	Negligible (within 50m)				
Page	Section	Coastal flooding					
28	8.1	Coastal flooding	Negligible (within 50m)				
Page	Section	Surface water flooding					
29	9.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
31	10.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
32	11.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
32	11.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
32	11.3	Special Areas of Conservation (SAC)	0	0	0	0	0
32	11.4	Special Protection Areas (SPA)	0	0	0	0	0
33	11.5	National Nature Reserves (NNR)	0	0	0	0	0
33	11.6	Local Nature Reserves (LNR)	0	0	0	0	0
33	11.7	Designated Ancient Woodland	0	0	0	0	0
33	11.8	Biosphere Reserves	0	0	0	0	0

34	11.9	Forest Parks	0	0	0	0	0
34	11.10	Marine Conservation Zones	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
35	12.1	World Heritage Sites	0	0	0	-	-
35	12.2	Area of Outstanding Natural Beauty	0	0	0	-	-
35	12.3	National Parks	0	0	0	-	-
35	12.4	Listed Buildings	0	0	0	-	-
36	12.5	Conservation Areas	0	0	0	-	-
36	12.6	Scheduled Ancient Monuments	0	0	0	-	-
36	12.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
37	13.1	<u>Agricultural Land Classification</u>	Grade 4.2 (within 250m)				
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
38	14.1	<u>10k Availability</u>	Identified (within 500m)				
39	14.2	Artificial and made ground (10k)	0	0	0	0	-
40	14.3	Superficial geology (10k)	0	0	0	0	-
40	14.4	Landslip (10k)	0	0	0	0	-
41	14.5	Bedrock geology (10k)	0	0	0	0	-
41	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
42	15.1	<u>50k Availability</u>	Identified (within 500m)				
43	15.2	Artificial and made ground (50k)	0	0	0	0	-
43	15.3	Artificial ground permeability (50k)	0	0	-	-	-
44	15.4	<u>Superficial geology (50k)</u>	1	0	0	0	-
45	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
45	15.6	Landslip (50k)	0	0	0	0	-
45	15.7	Landslip permeability (50k)	None (within 50m)				
46	15.8	<u>Bedrock geology (50k)</u>	1	0	0	0	-
47	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				



47	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
48	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
49	17.1	Shrink swell clays	Very low (within 50m)				
50	17.2	Running sands	Very low (within 50m)				
51	17.3	Compressible deposits	Negligible (within 50m)				
52	17.4	Collapsible deposits	Very low (within 50m)				
53	17.5	Landslides	Very low (within 50m)				
54	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
55	18.1	Natural cavities	0	0	0	0	-
56	18.2	BritPits	0	0	0	0	-
56	18.3	Surface ground workings	0	0	4	-	-
56	18.4	Underground workings	0	0	0	0	0
56	18.5	Historical Mineral Planning Areas	0	0	0	0	-
57	18.6	Non-coal mining	0	0	0	0	0
57	18.7	Mining cavities	0	0	0	0	0
57	18.8	JPB mining areas	None (within 0m)				
57	18.9	Coal mining	None (within 0m)				
57	18.10	Brine areas	None (within 0m)				
58	18.11	Gypsum areas	None (within 0m)				
58	18.12	Tin mining	None (within 0m)				
58	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
59	19.1	Radon	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
60	20.1	BGS Estimated Background Soil Chemistry	1	0	-	-	-
60	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-



60	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
61	21.1	Underground railways (London)	0	0	0	-	-
61	21.2	Underground railways (Non-London)	0	0	0	-	-
61	21.3	Railway tunnels	0	0	0	-	-
61	21.4	Historical railway and tunnel features	0	0	0	-	-
61	21.5	Royal Mail tunnels	0	0	0	-	-
62	21.6	Historical railways	0	0	0	-	-
62	21.7	Railways	0	0	0	-	-
62	21.8	Crossrail 1	0	0	0	0	-
62	21.9	Crossrail 2	0	0	0	0	-
62	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 26/05/2018

Site Area: 1.23ha



Recent site history - 2015 aerial photograph



Capture Date: 15/05/2015

Site Area: 1.23ha



Recent site history - 2010 aerial photograph



Capture Date: 03/09/2010

Site Area: 1.23ha



Recent site history - 2006 aerial photograph

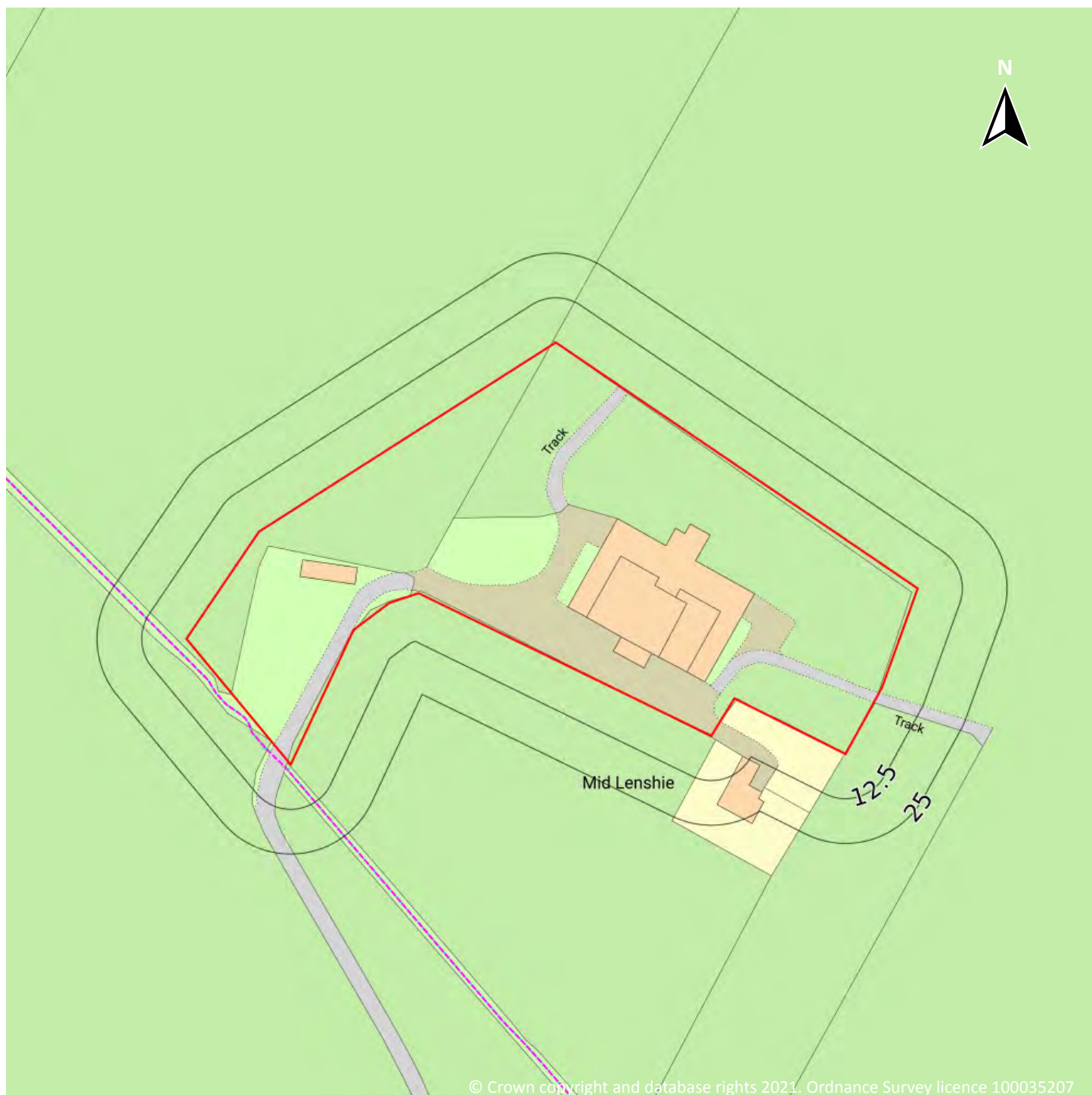


Capture Date: 09/09/2006

Site Area: 1.23ha



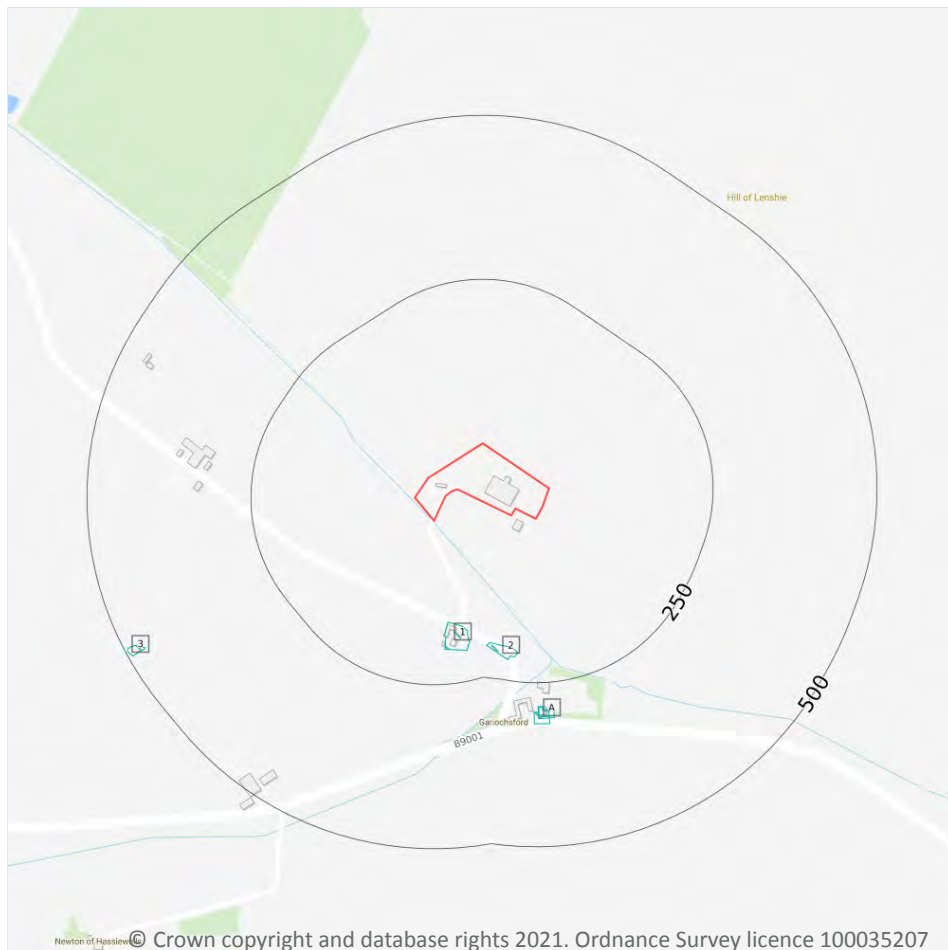
OS MasterMap site plan



Site Area: 1.23ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

6

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 12**

ID	Location	Land use	Dates present	Group ID
1	156m S	Unspecified Mill	1902	459461



ID	Location	Land use	Dates present	Group ID
2	197m S	Corn Mill	1871 - 1902	451776
A	286m S	Smithy	1902	458738
A	287m S	Smithy	1902	456574
A	295m S	Smithy	1955	454392
3	471m SW	Unspecified Quarry	1871	438041

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

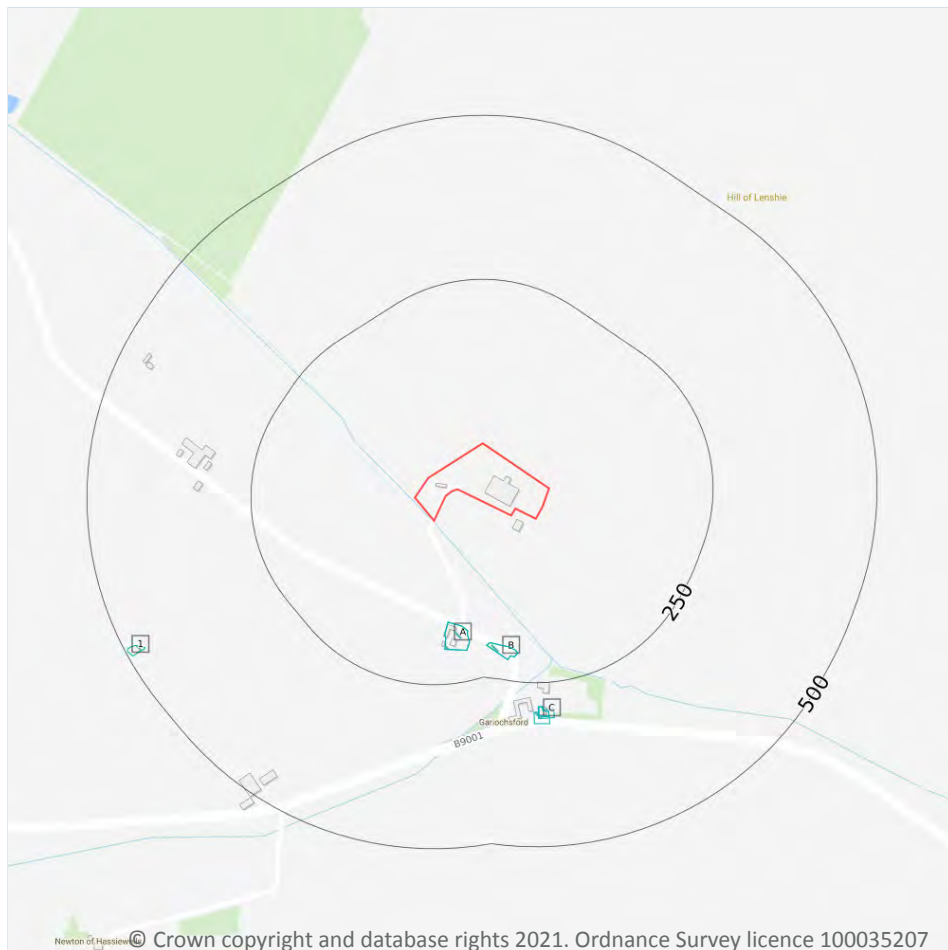
Records within 500m**0**

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

9

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 15**

ID	Location	Land Use	Date	Group ID
A	156m S	Unspecified Mill	1902	459461
A	156m S	Unspecified Mill	1902	459461
B	197m S	Corn Mill	1902	451776



ID	Location	Land Use	Date	Group ID
B	197m S	Corn Mill	1871	451776
C	286m S	Smithy	1902	458738
C	287m S	Smithy	1902	456574
C	287m S	Smithy	1902	456574
C	295m S	Smithy	1955	454392
1	471m SW	Unspecified Quarry	1871	438041

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

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

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

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

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

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

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

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

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

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Scottish Environment Protection (SEPA) regulation.

This data is sourced from the Scottish Environment Protection Agency.

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 Licensed waste sites

Records within 500m

0

Active or recently closed waste sites under Scottish Environment Protection Agency (SEPA) regulation.

This data is sourced from the Scottish Environment Protection Agency.

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.

4 Current industrial land use



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

4.1 Recent industrial land uses

Records within 250m

1

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 19**

ID	Location	Company	Address	Activity	Category
1	217m S	Hydraulic Ram	Aberdeenshire, AB51	Water Pumping Stations	Industrial Features

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m**0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Part A(1), IPPC and Historic IPC Authorisations

Records within 500m

0

Records of Part A installations regulated for the release of substances to the environment.

This data is sourced from the Scottish Environment Protection Agency.

4.10 Part B Authorisations

Records within 500m

0

Records of Part B installations regulated for the release of substances to the environment.

This data is sourced from the Scottish Environment Protection Agency.

4.11 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.

4.12 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.

4.13 Pollution inventory radioactive waste

Records within 500m

0

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

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



5 Hydrogeology - Superficial aquifer

5.1 Superficial aquifer

Records within 500m

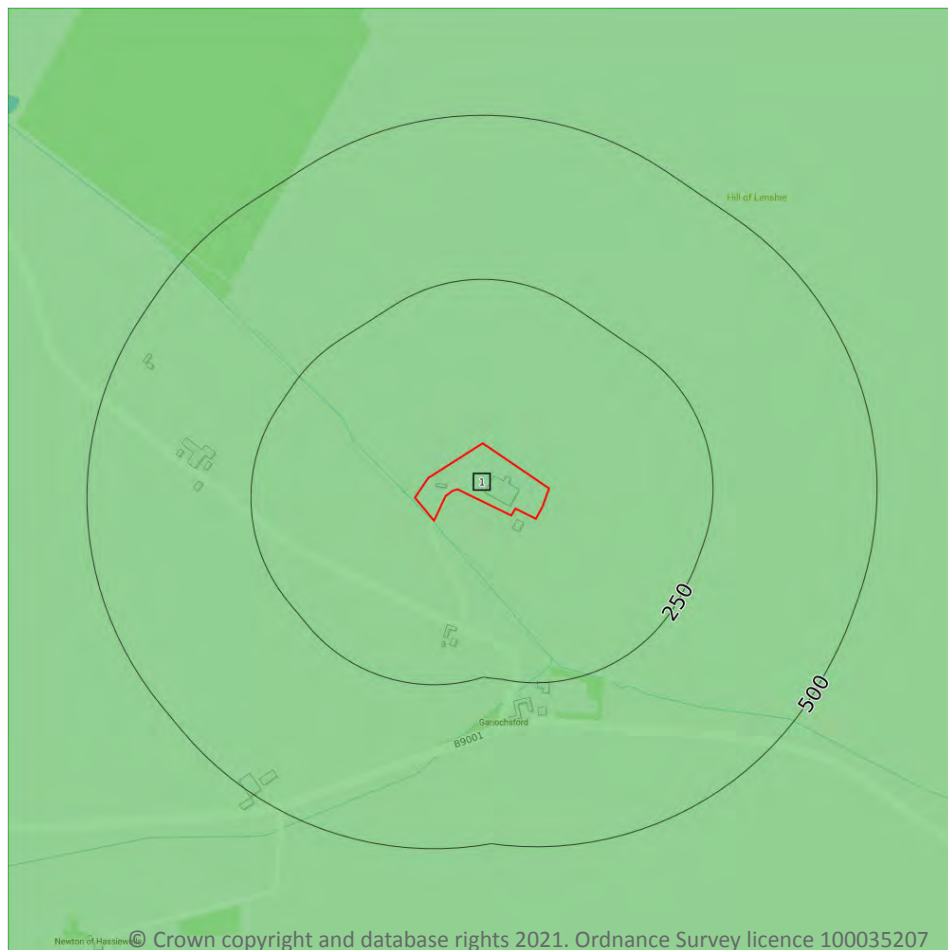
0

Records of groundwater classification within superficial geology.

This data is sourced from the British Geological Survey.



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Highly productive - fissures/discontinuities
- Highly productive - intergranular
- Moderately productive - fissures/discontinuities
- Moderately productive - intergranular
- Low productive - fissures/discontinuities
- Low productive - intergranular
- No significant groundwater

5.2 Bedrock aquifer

Records within 500m

1

Records of groundwater classification within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 24**

ID	Location	Description	Flow	Summary	Rock description
1	On site	Low productivity aquifer	Flow is virtually all through fractures and other discontinuities	Small amounts of groundwater in near surface weathered zone and secondary fractures.	SOUTHERN HIGHLAND GROUP

This data is sourced from the British Geological Survey.



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)

6.1 Water Network (OS MasterMap)

Records within 250m

5

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

Features are displayed on the Hydrology map on **page 25**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	1m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Burn of Lenshie



ID	Location	Type of water feature	Ground level	Permanence	Name
1	1m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Burn of Lenshie
B	1m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Burn of Lenshie
C	213m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Burn of Lenshie
C	213m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

4

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

Features are displayed on the Hydrology map on **page 25**

This data is sourced from the Ordnance Survey.



7 River flooding

7.1 River flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

This is an assessment of flood risk for rivers in Scotland produced using modelled data, provided by Ambiental Risk Analytics. It also takes account of flood defence information provided by the Scottish Environment Protection Agency (SEPA). It shows the chance of flooding from rivers presented in the following categories:

- 1 in 30 year (3.33%)
- 1 in 100 year (1%)
- 1 in 250 year (0.4%)
- and 1 in 1,000 year (0.1%)

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

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

This data is sourced from Ambiental Risk Analytics.



8 Coastal flooding - Coastal flooding

8.1 Coastal flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

This is an assessment of coastal flood risk in Scotland produced using modelled data, provided by Ambiantal Risk Analytics. It also takes account of flood defence information provided by the Scottish Environment Protection Agency (SEPA). It shows the chance of coastal flooding presented in the following categories:

- 1 in 30 year (3.33%)
- 1 in 100 year (1%)
- 1 in 250 year (0.4%)
- and 1 in 1,000 year (0.1%)

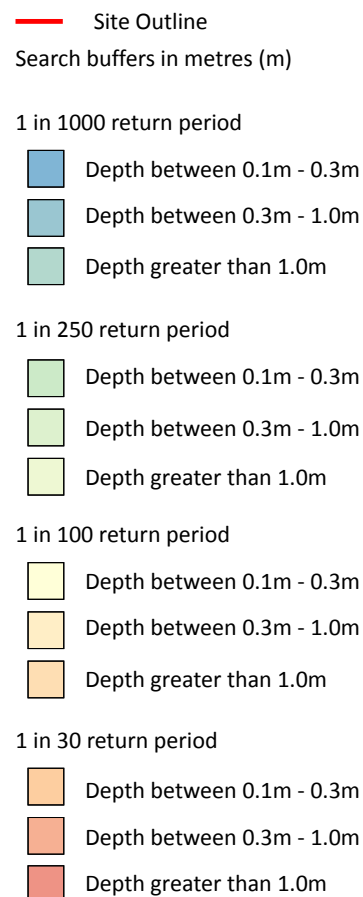
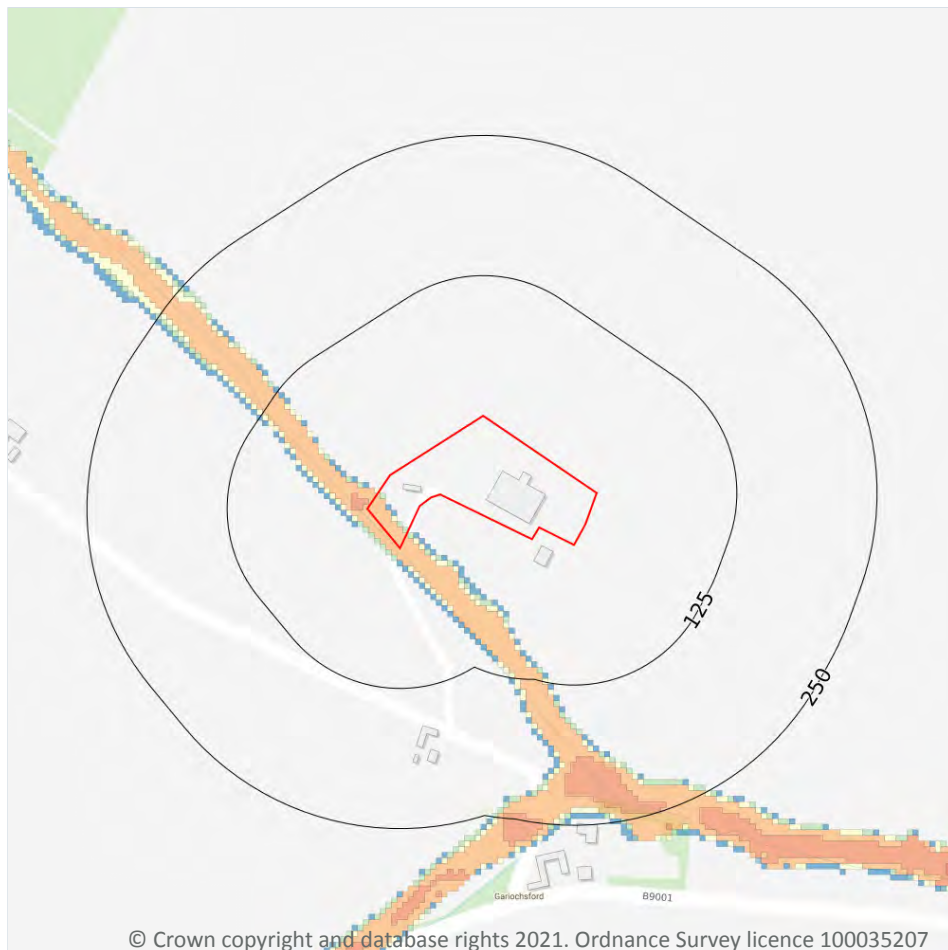
The data shown on the map shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



9 Surface water flooding



9.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on **page 29**

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

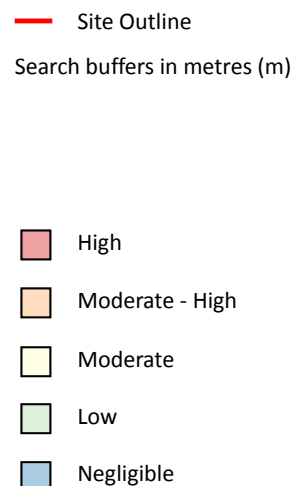
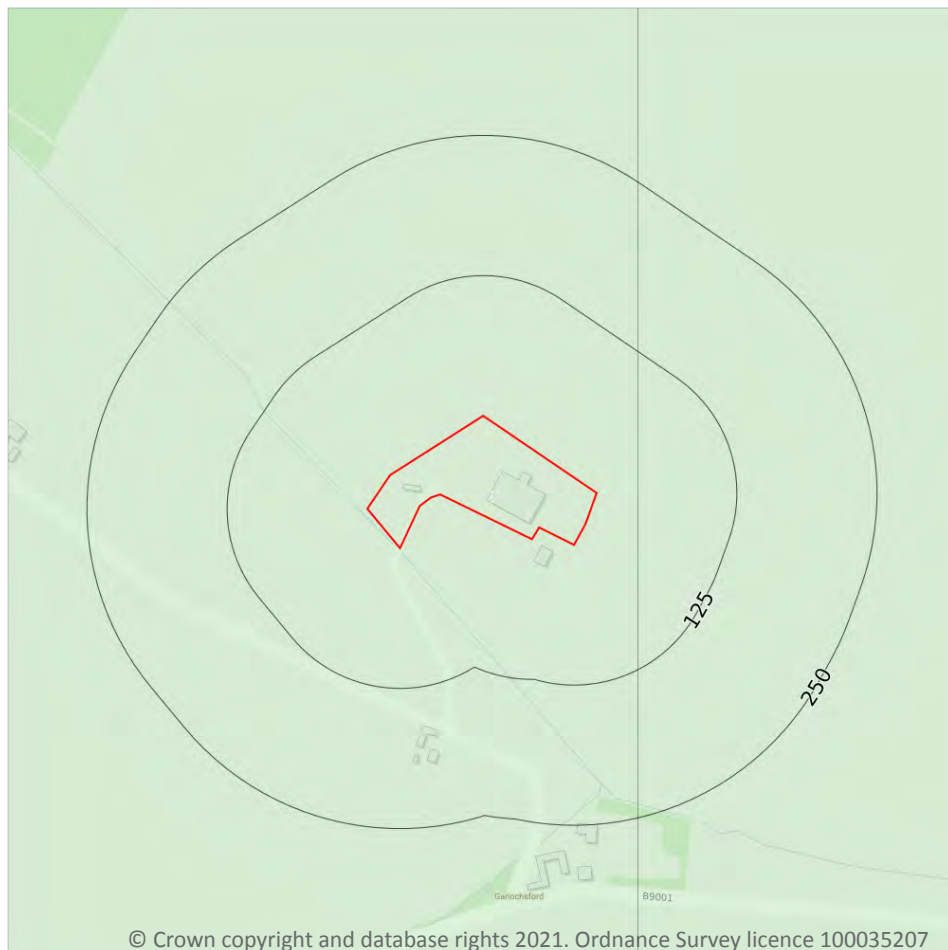
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



10 Groundwater flooding



10.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

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

Features are displayed on the Groundwater flooding map on **page 31**

This data is sourced from Ambiantal Risk Analytics.

11 Environmental designations

11.1 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.

11.2 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.

11.3 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.

11.4 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.



11.5 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.

11.6 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.

11.7 Designated Ancient Woodland

Records within 2000m

0

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.

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

11.8 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.

11.9 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.

11.10 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.

12 Visual and cultural designations

12.1 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.

12.2 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.

12.3 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.

12.4 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 English Heritage, Cadw and Historic Environment Scotland.

12.5 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 English Heritage, Cadw and Historic Environment Scotland.

12.6 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 English Heritage, Cadw and Historic Environment Scotland.

12.7 Registered Parks and Gardens

Records within 250m

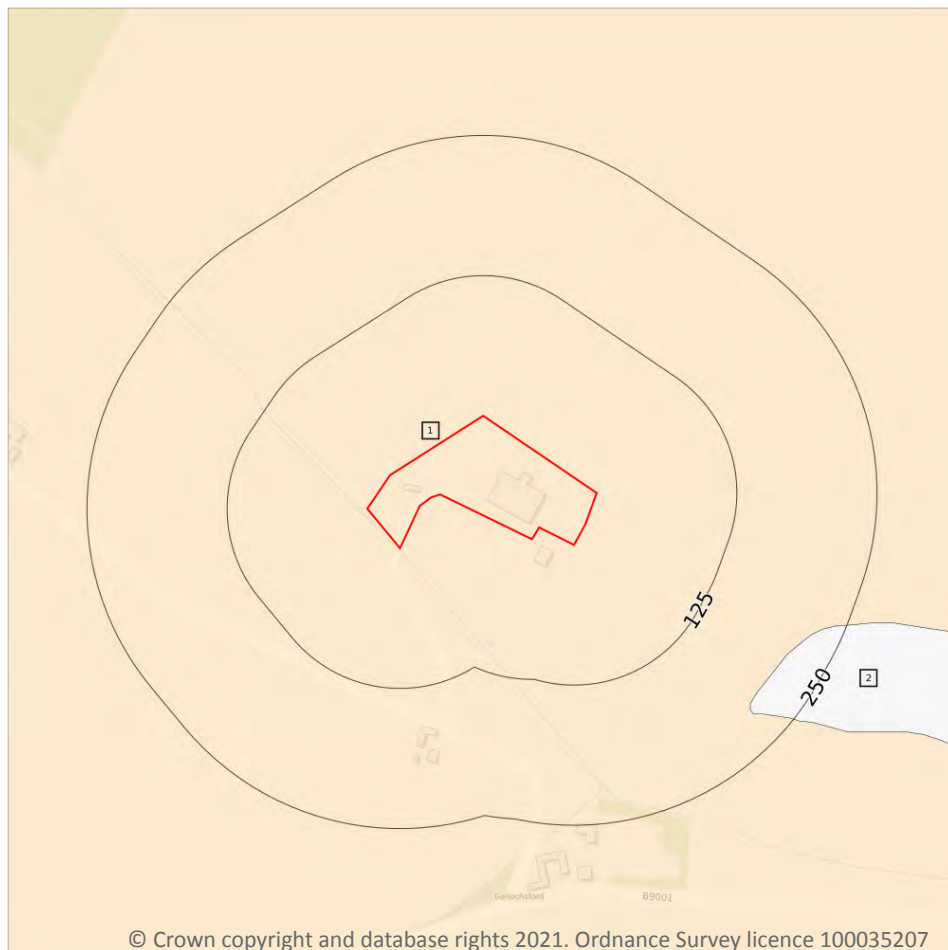
0

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 English Heritage, Cadw and Historic Environment Scotland.



13 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 4 - good quality
- Grade 5 - moderate quality
- Grade 6 - poor quality
- Grade 7 - very poor quality

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13.1 Agricultural Land Classification

Records within 250m

2

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 37**

ID	Location	Classification	Description
1	On site	Grade 3.2	Land Suited to Arable Cropping
2	210m SE	Grade 4.2	Land Suited to Arable Cropping

This data is sourced from the James Hutton Institute.



14 Geology 1:10,000 scale - Availability



- Site Outline
- Search buffers in metres (m)
- Full coverage
 - Partial coverage
 - No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 38**

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

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 42**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	SC086e_Turriff_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

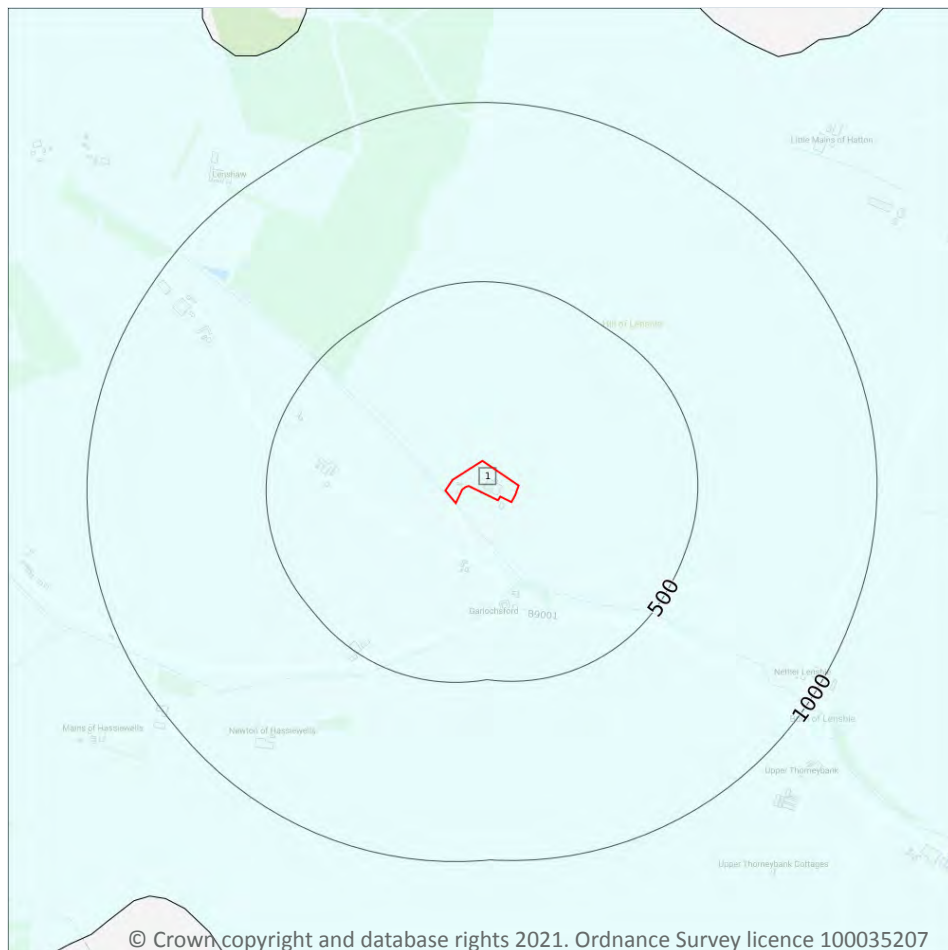
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 44**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m**1**

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

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

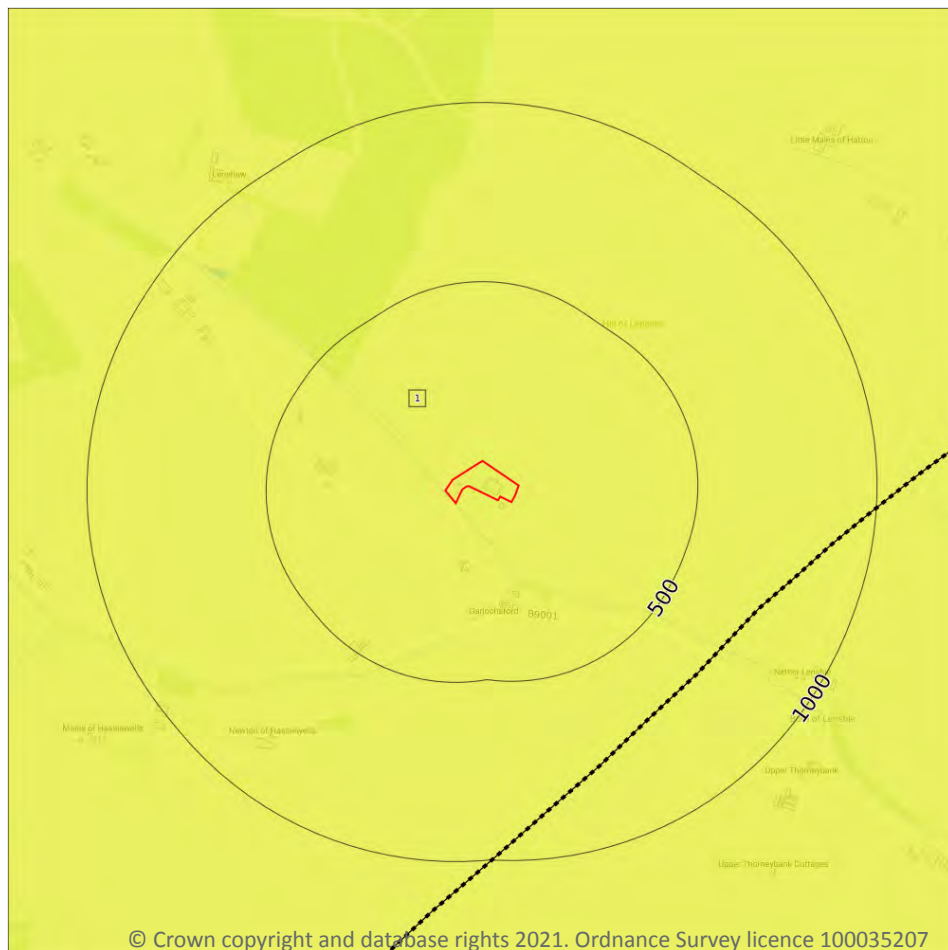
15.7 Landslip permeability (50k)

Records within 50m**0**

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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

15.8 Bedrock geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 46**

ID	Location	LEX Code	Description	Rock age
1	On site	MCD-MPSP	MACDUFF FORMATION - MICACEOUS PSAMMITE, SEMIPELITE AND PELITE	-

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Low	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

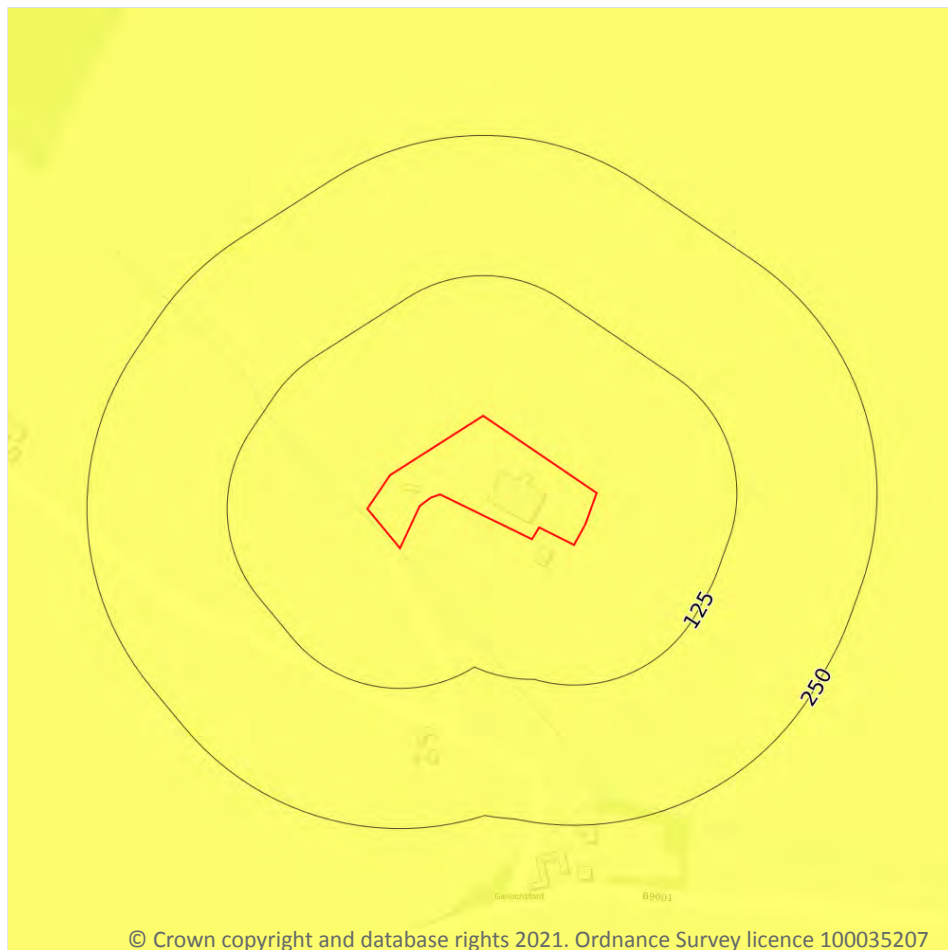
0

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

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

17.1 Shrink swell clays

Records within 50m

1

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

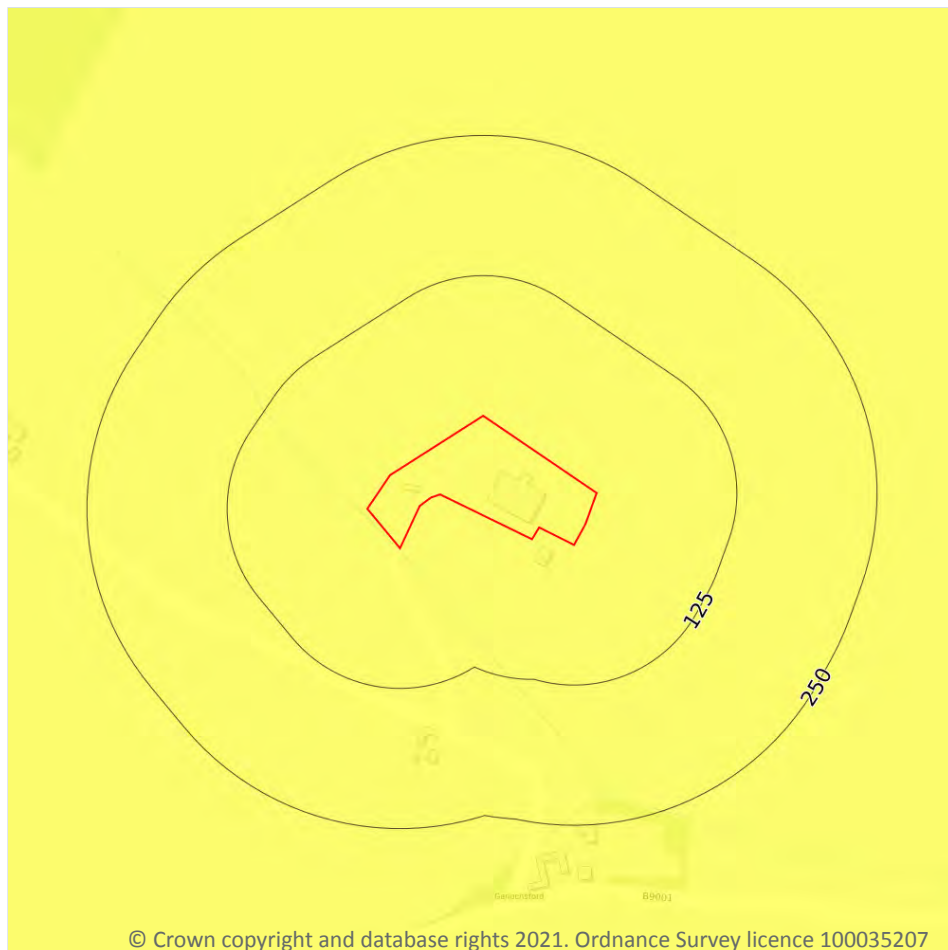
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 49**

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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

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17.2 Running sands

Records within 50m

1

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

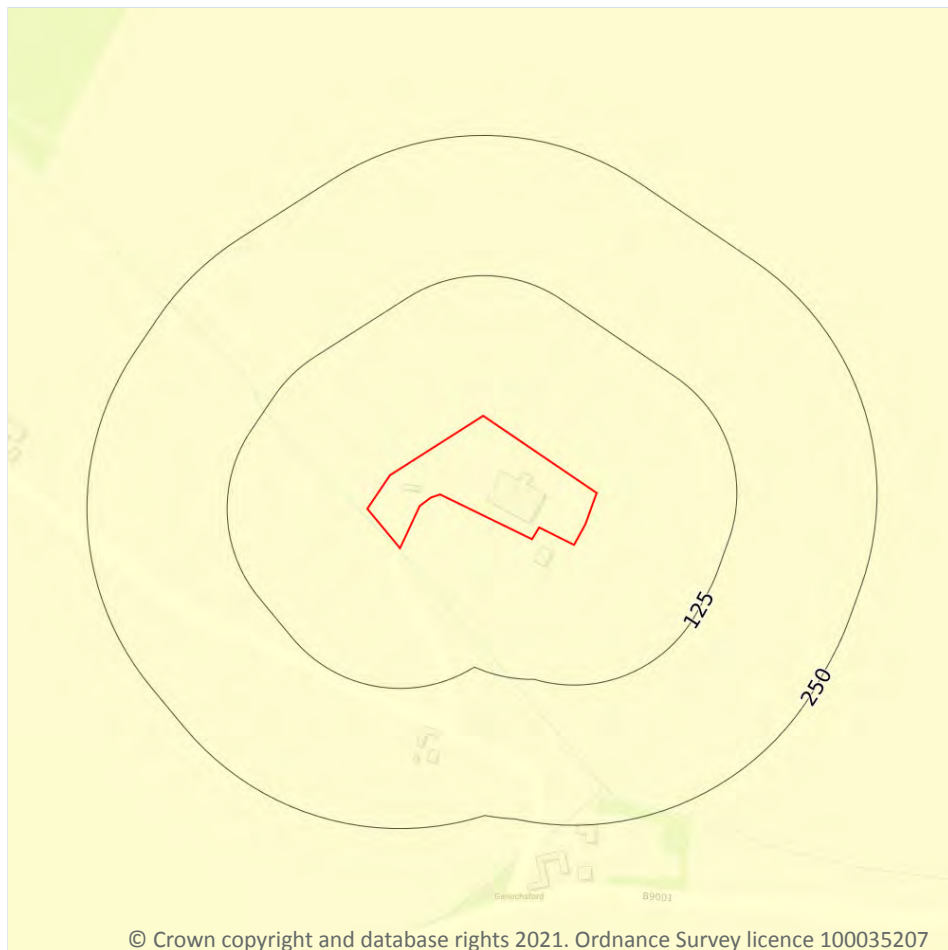
Features are displayed on the Natural ground subsidence - Running sands map on **page 50**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



- 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.

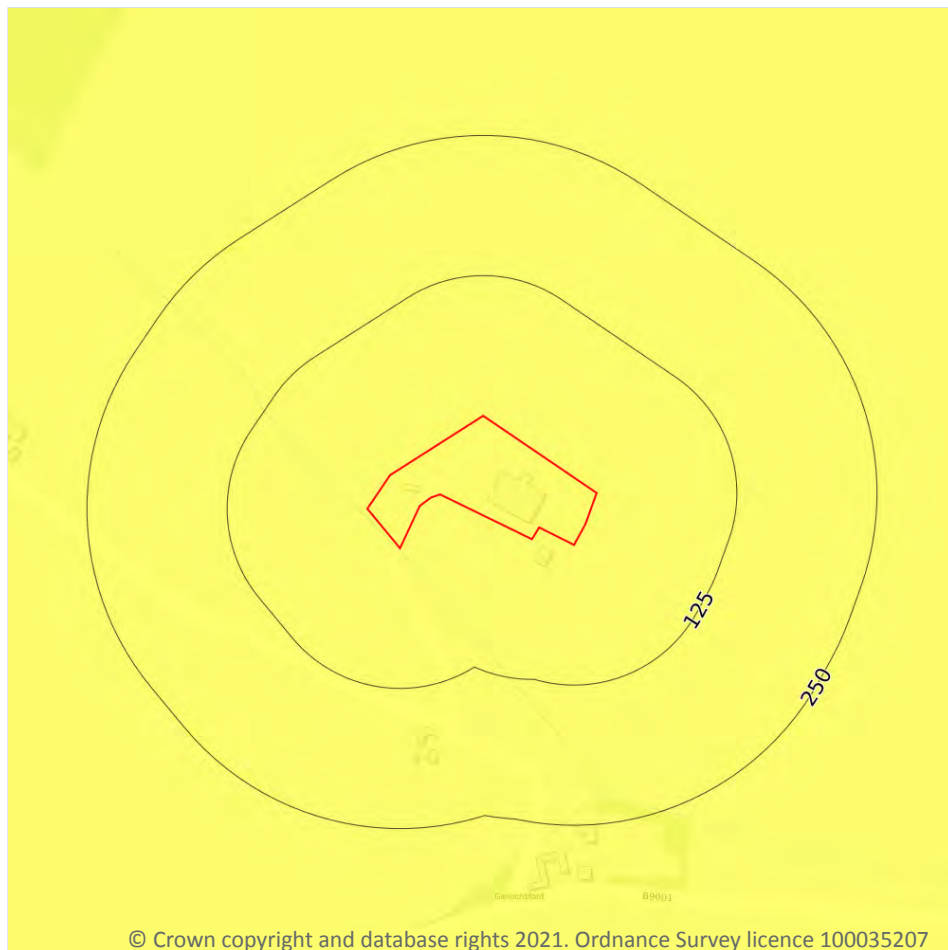
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 51**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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

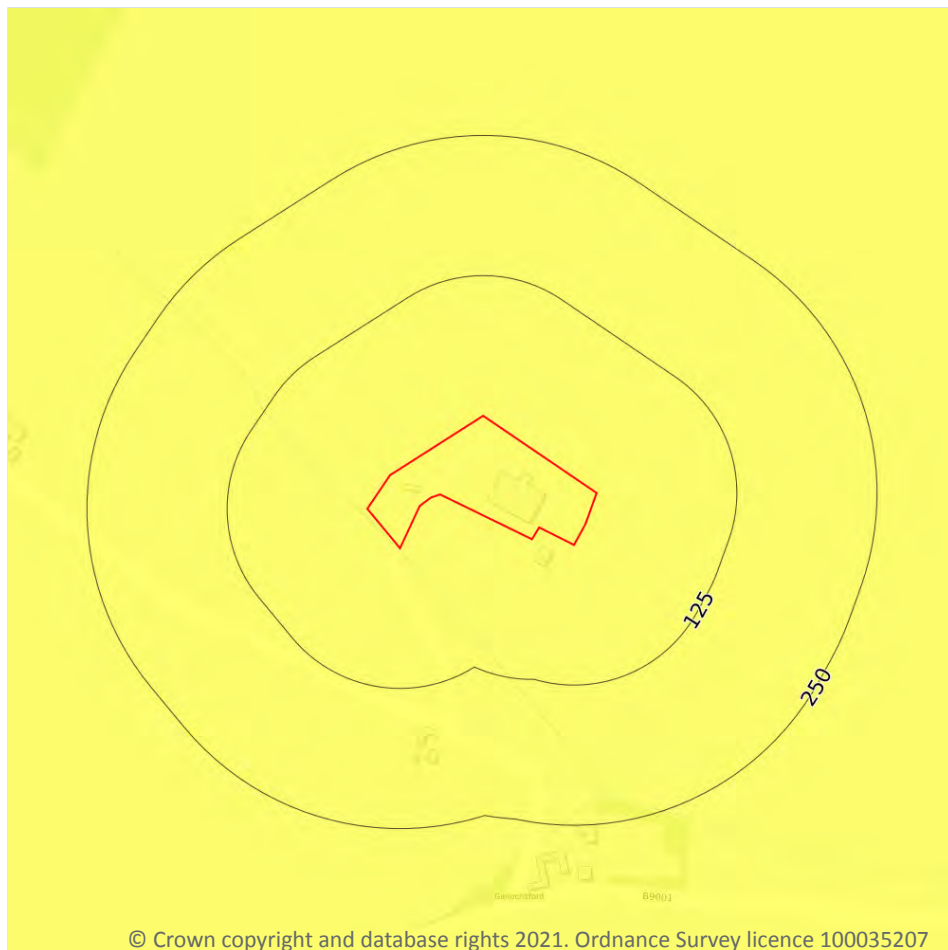
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 52**

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

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17.5 Landslides

Records within 50m

1

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

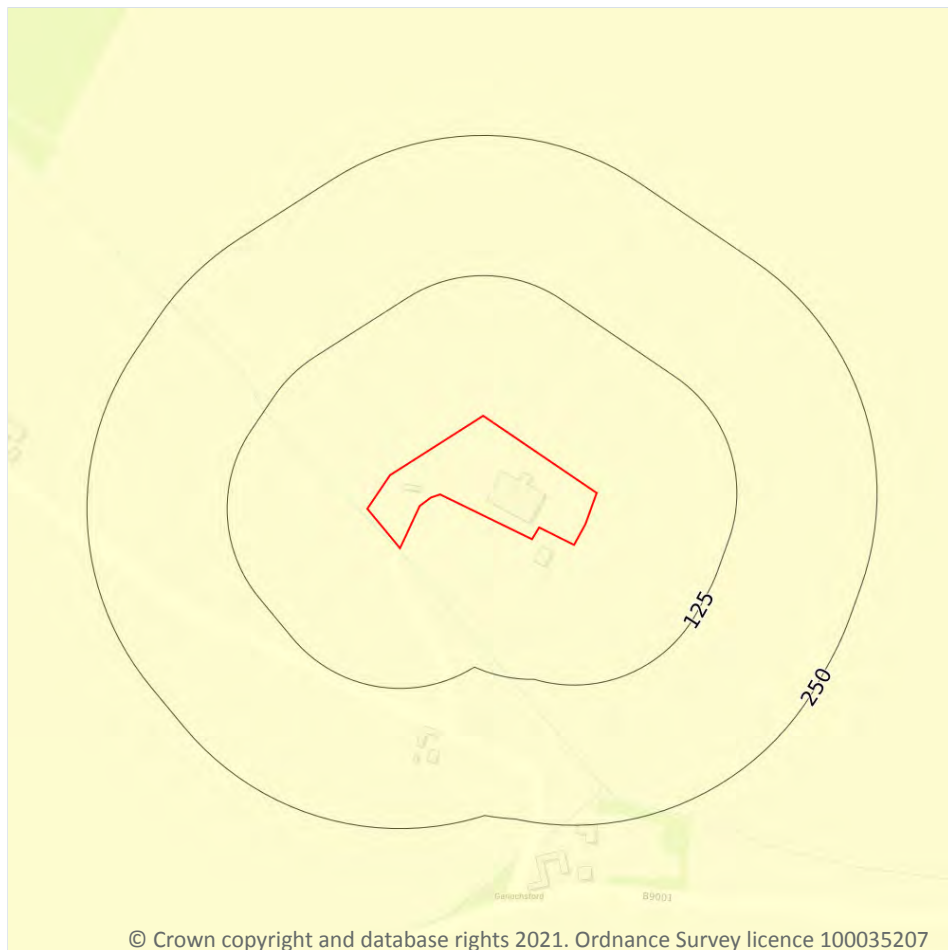
Features are displayed on the Natural ground subsidence - Landslides map on **page 53**

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

1

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

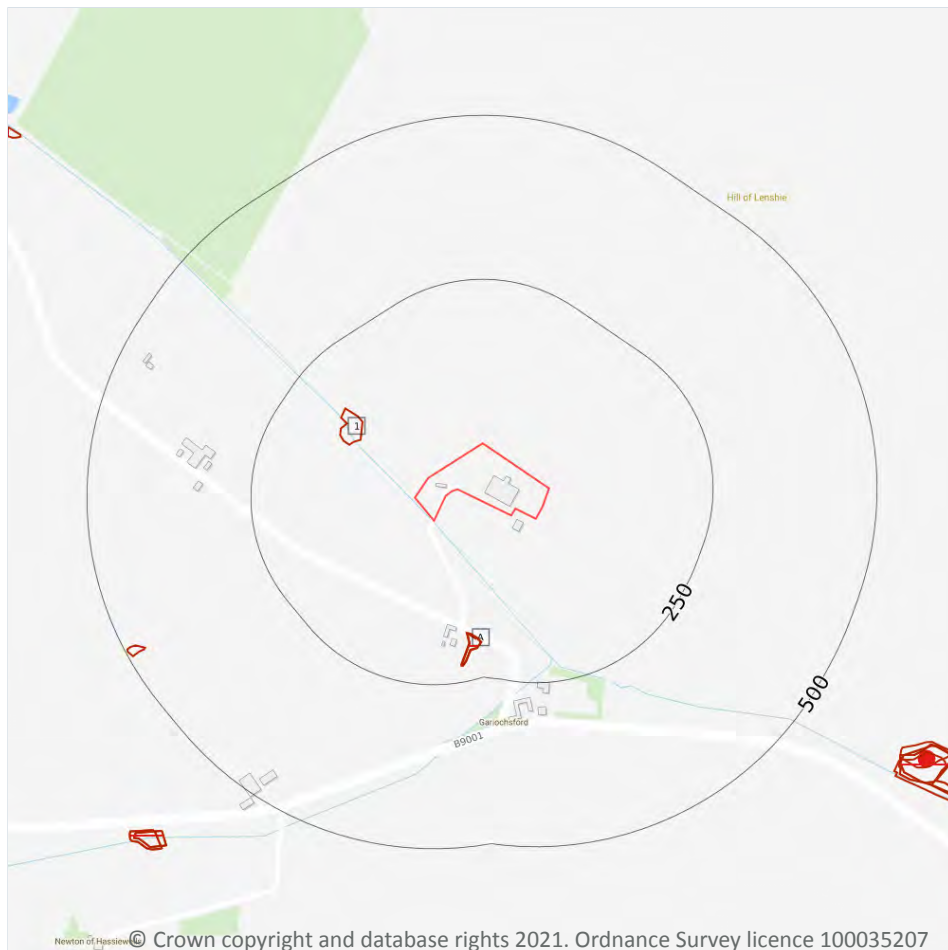
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 54**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



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

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m**0**

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.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m**4**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 55**

ID	Location	Land Use	Year of mapping	Mapping scale
1	118m NW	Pond	1871	1:10560
A	179m S	Pond	1902	1:10560
A	179m S	Pond	1902	1:10560
A	179m S	Pond	1902	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m**0**

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

This data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m**0**

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

This data is sourced from the British Geological Survey.



18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site

0

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

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



18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

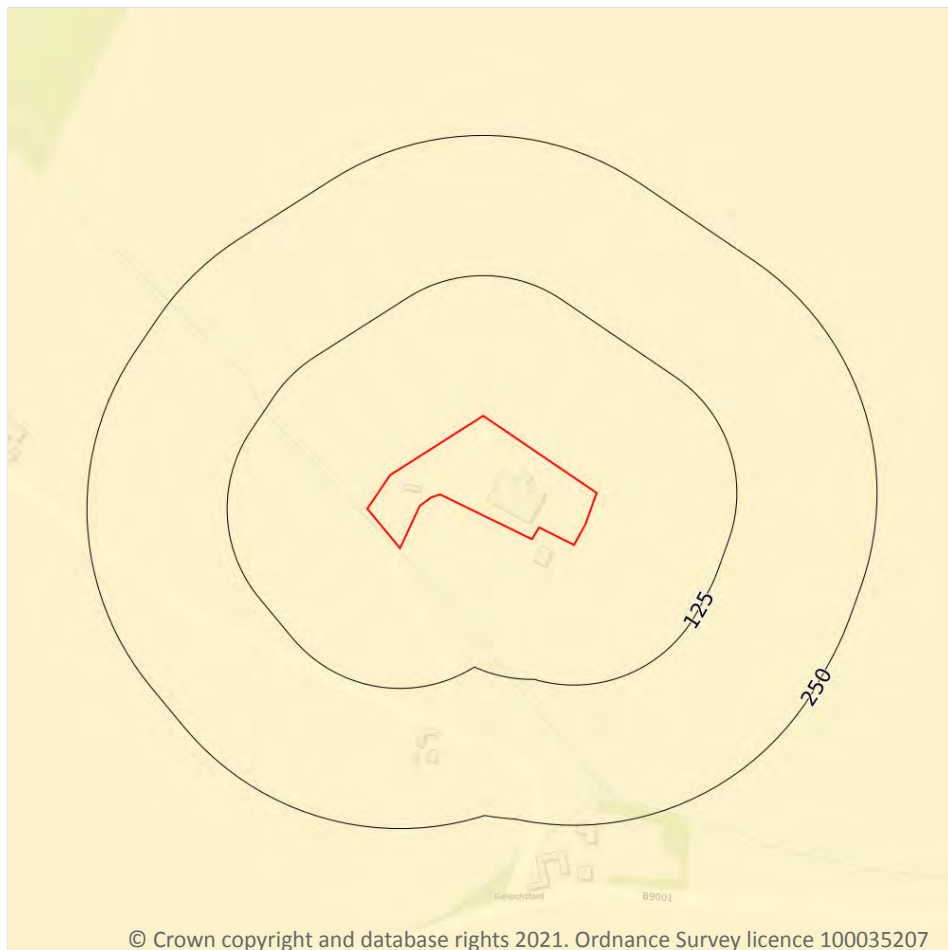
18.13 Clay mining

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

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

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

19 Radon



- Site Outline
- Search buffers in metres (m)
- Greater than 30%
 - Between 10% and 30%
 - Between 5% and 10%
 - Between 3% and 5%
 - Between 1% and 3%
 - Less than 1%

19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 59**

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 1% and 3%	Stage 1

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

1

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

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

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

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

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

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

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

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

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

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

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

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

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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APPENDIX B - Historic maps

Site Details:

MID LENSHE,
ROTHIENORMAN, AB51 8XU

Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: County Series

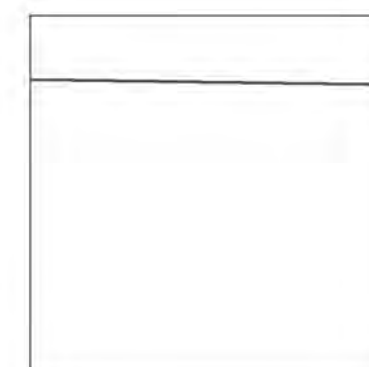
Map date: 1870-1871

Scale: 1:2,500

Printed at: 1:2,500



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



Surveyed 1871
Revised 1871
Edition N/A
Copyright N/A
Levelled N/A

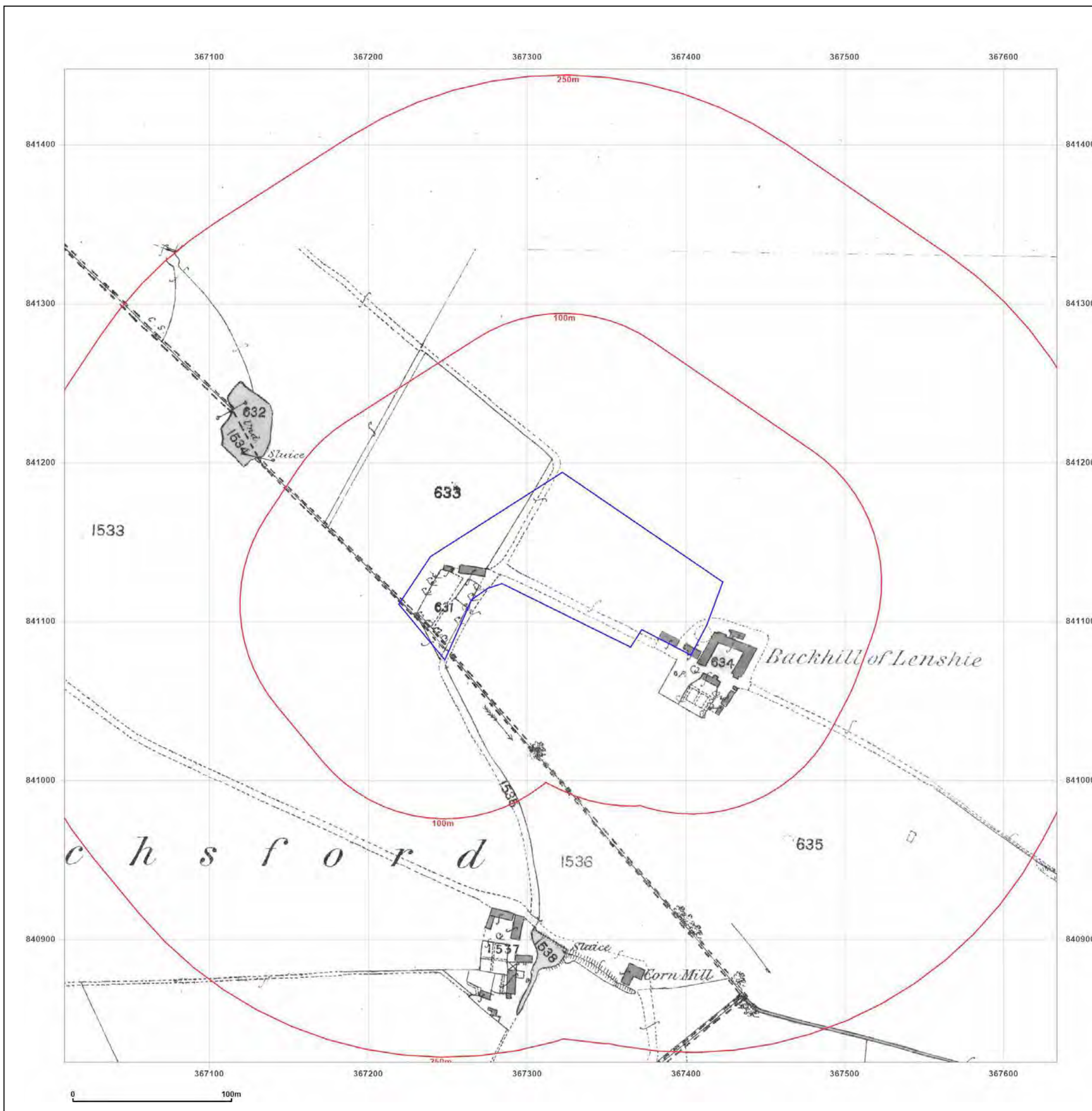


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Map legend available at:
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Site Details:

MID LENSHE,
ROTHIENORMAN, AB51 8XU

Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: County Series

Map date: 1901

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1901
Revised 1901
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1901
Revised 1901
Edition N/A
Copyright N/A
Levelled N/A

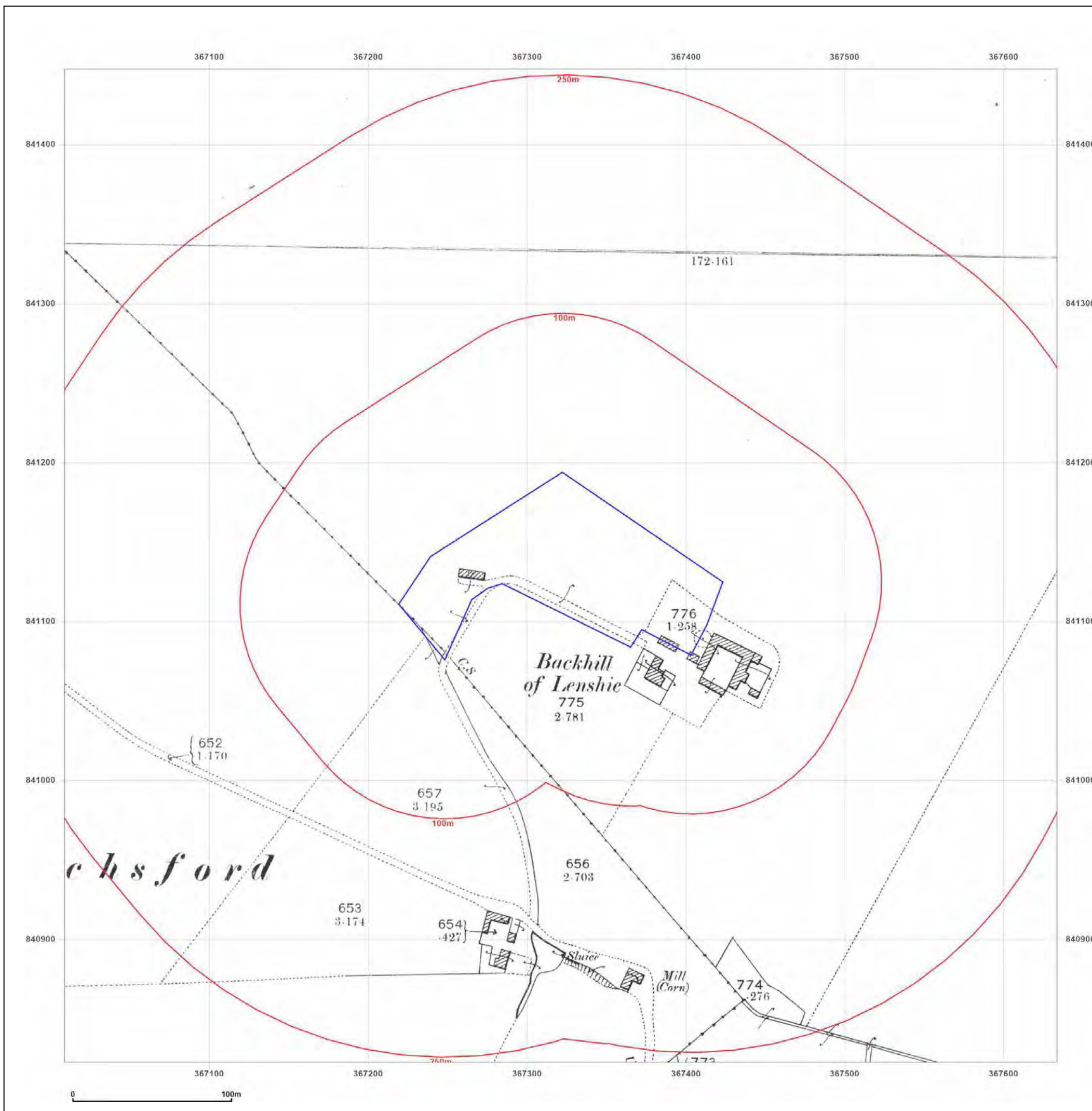


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: National Grid

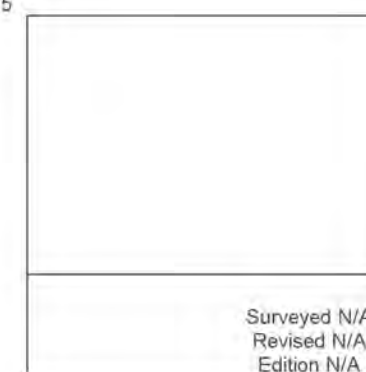
Map date: 1980-1981

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1980
Revised 1980
Edition N/A
Copyright 1982
Levelled 1975



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

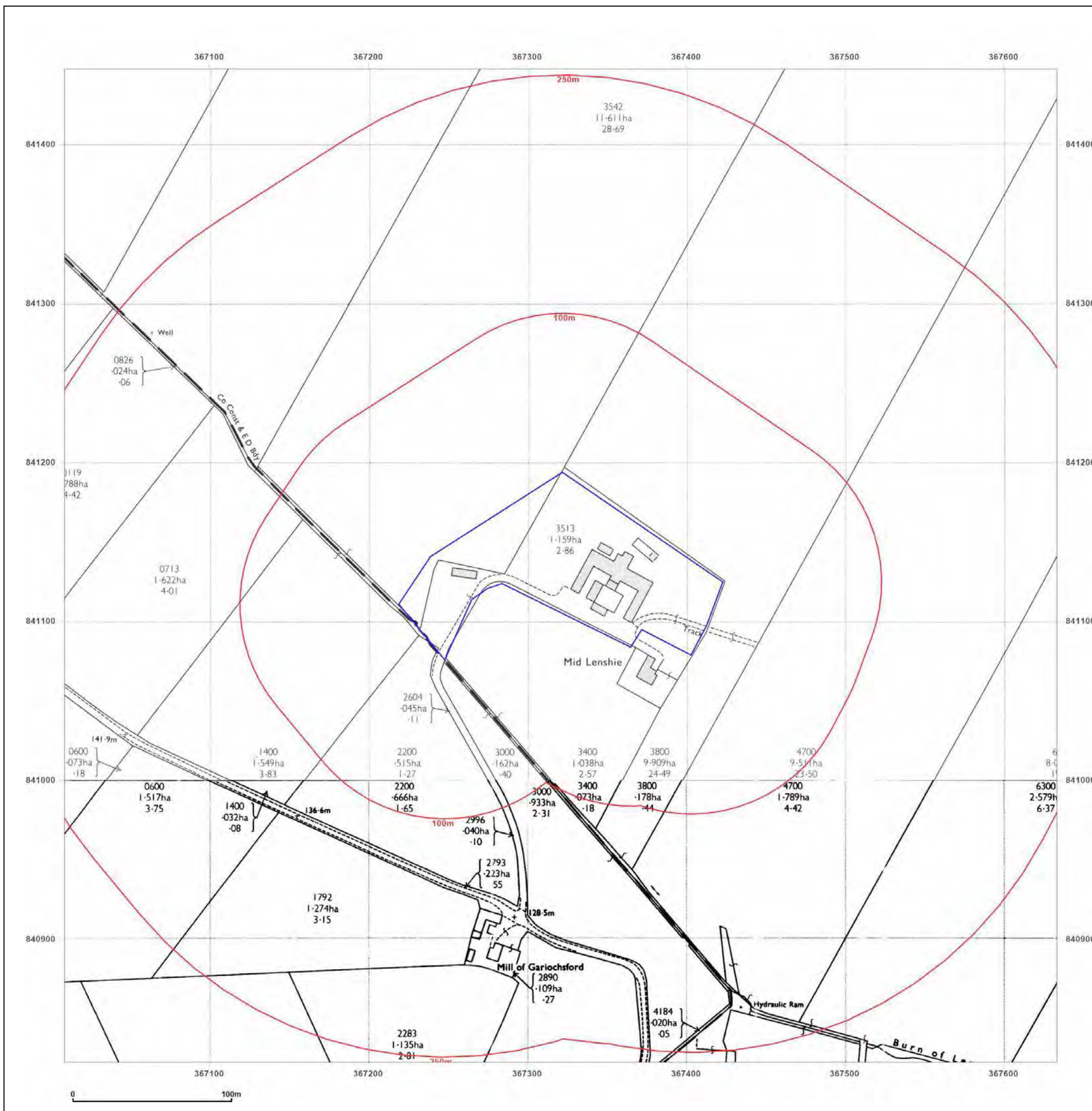


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: National Grid

Map date: 1980-1982

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed 1980
Revised 1980
Edition N/A
Copyright 1981
Levelled 1975

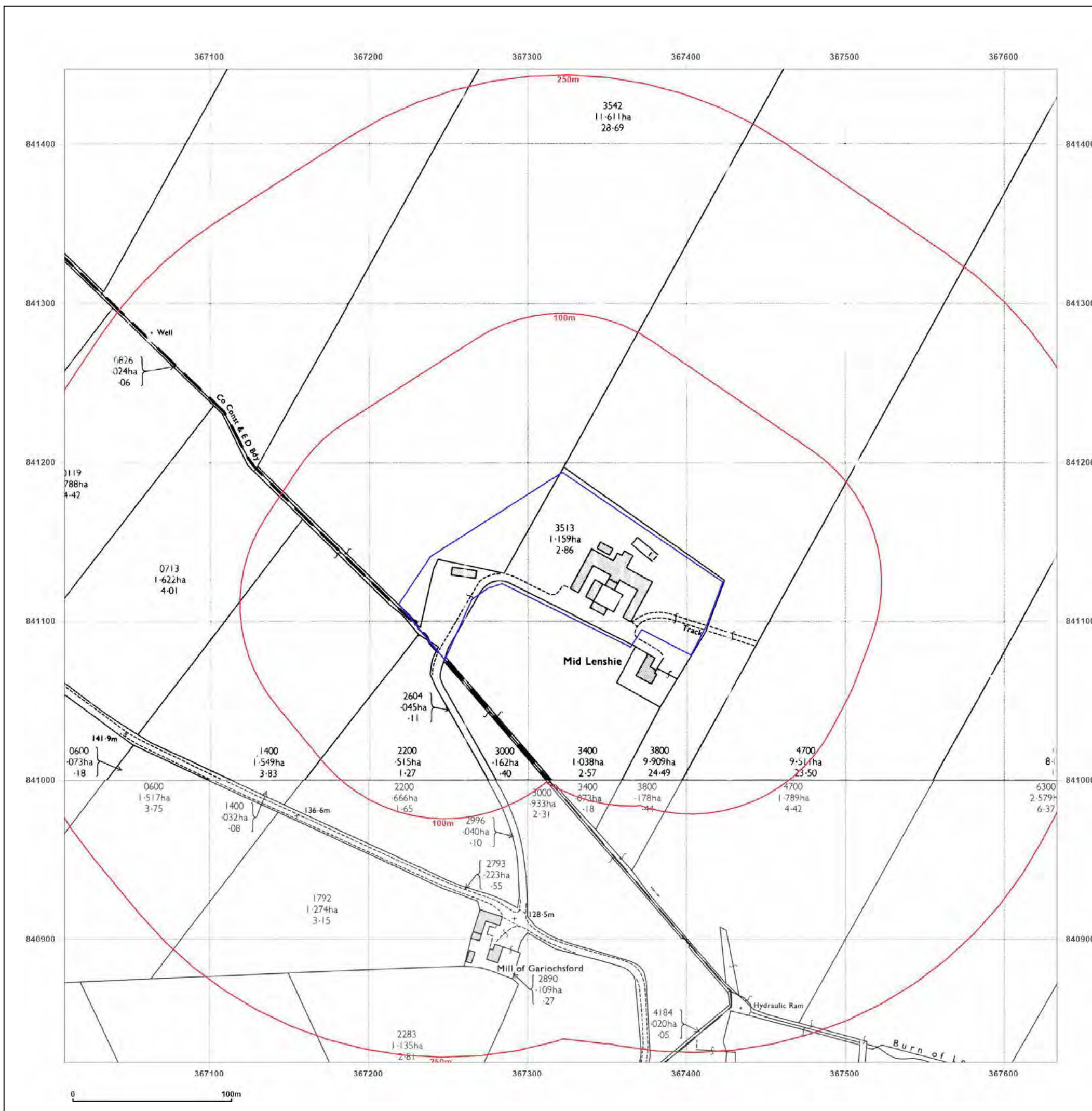


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250

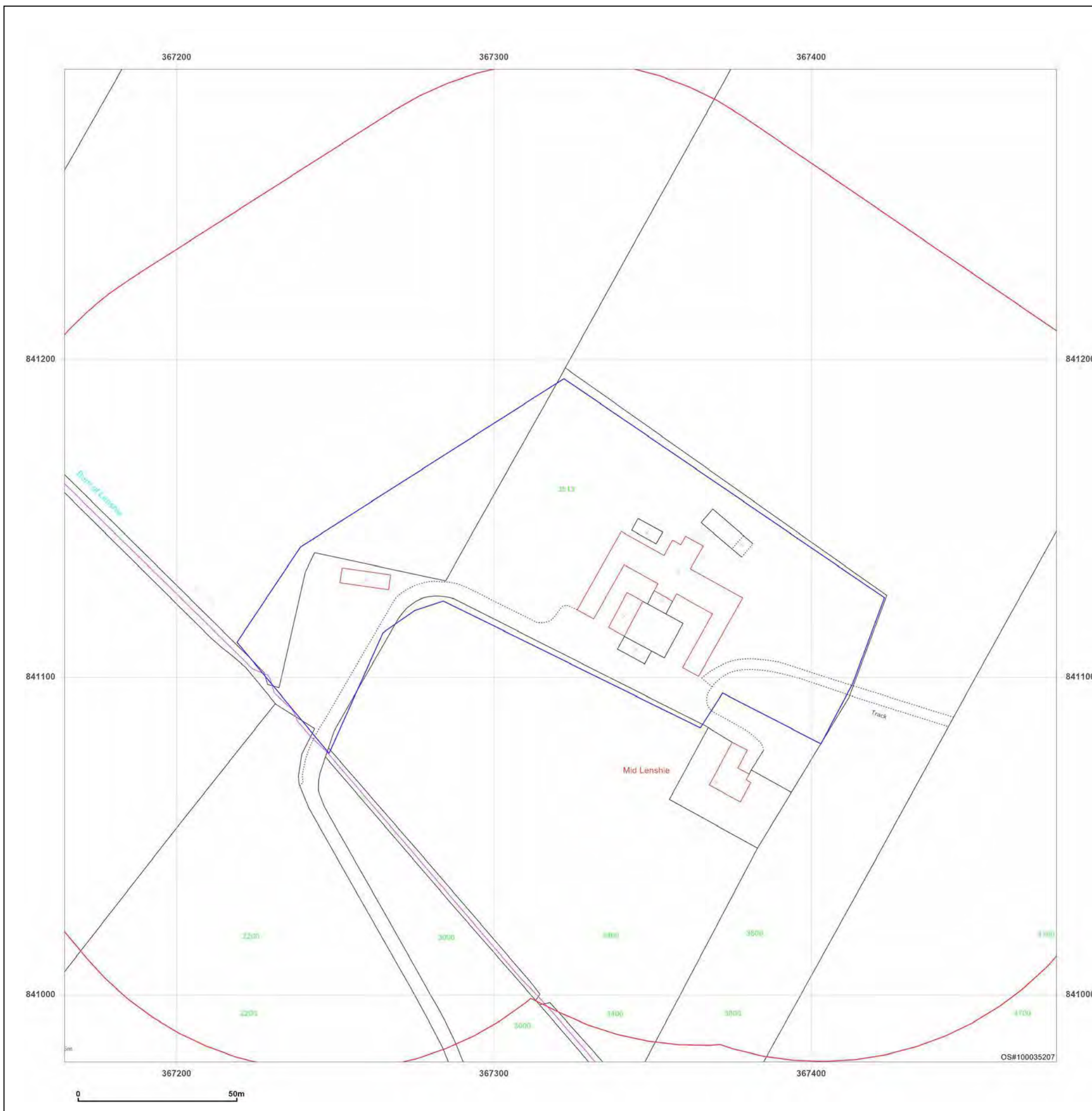


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: County Series

Map date: 1871

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1871
Revised 1871
Edition N/A
Copyright N/A
Levelled N/A

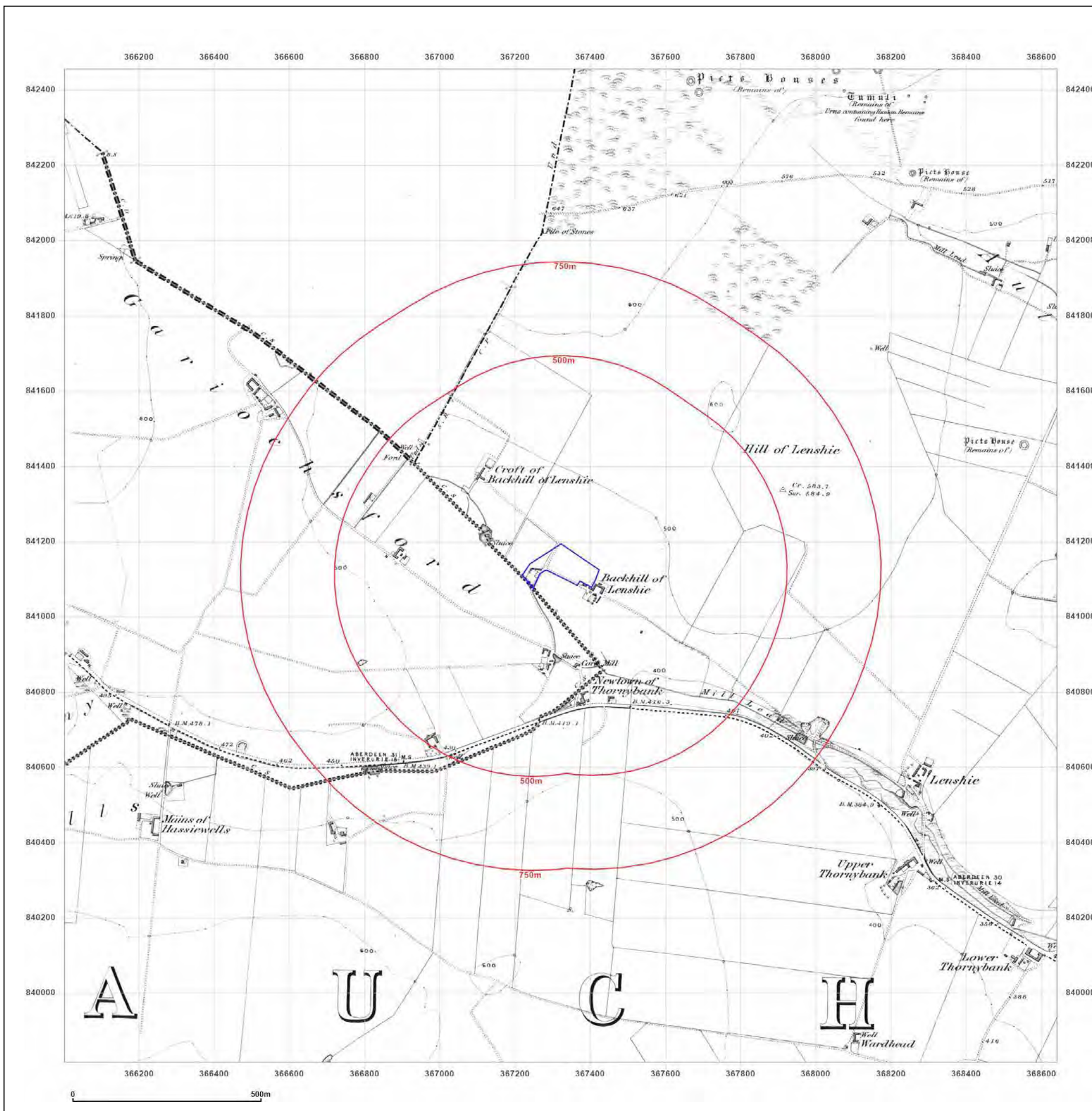


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: County Series

Map date: 1902

Scale: 1:10,560

Printed at: 1:10,560



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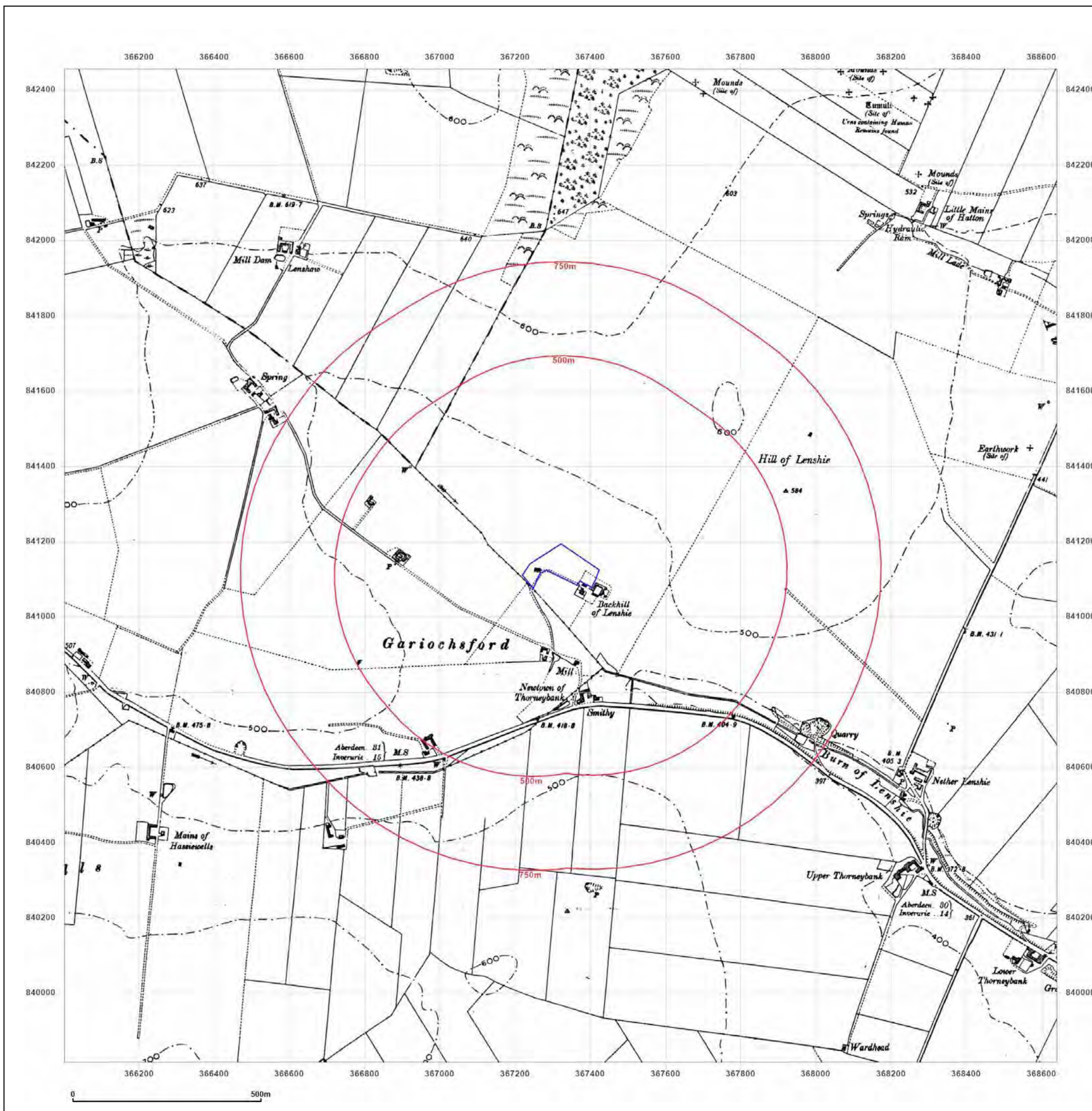


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: County Series

Map date: 1902

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1871
Revised 1902
Edition N/A
Copyright N/A
Levelled N/A

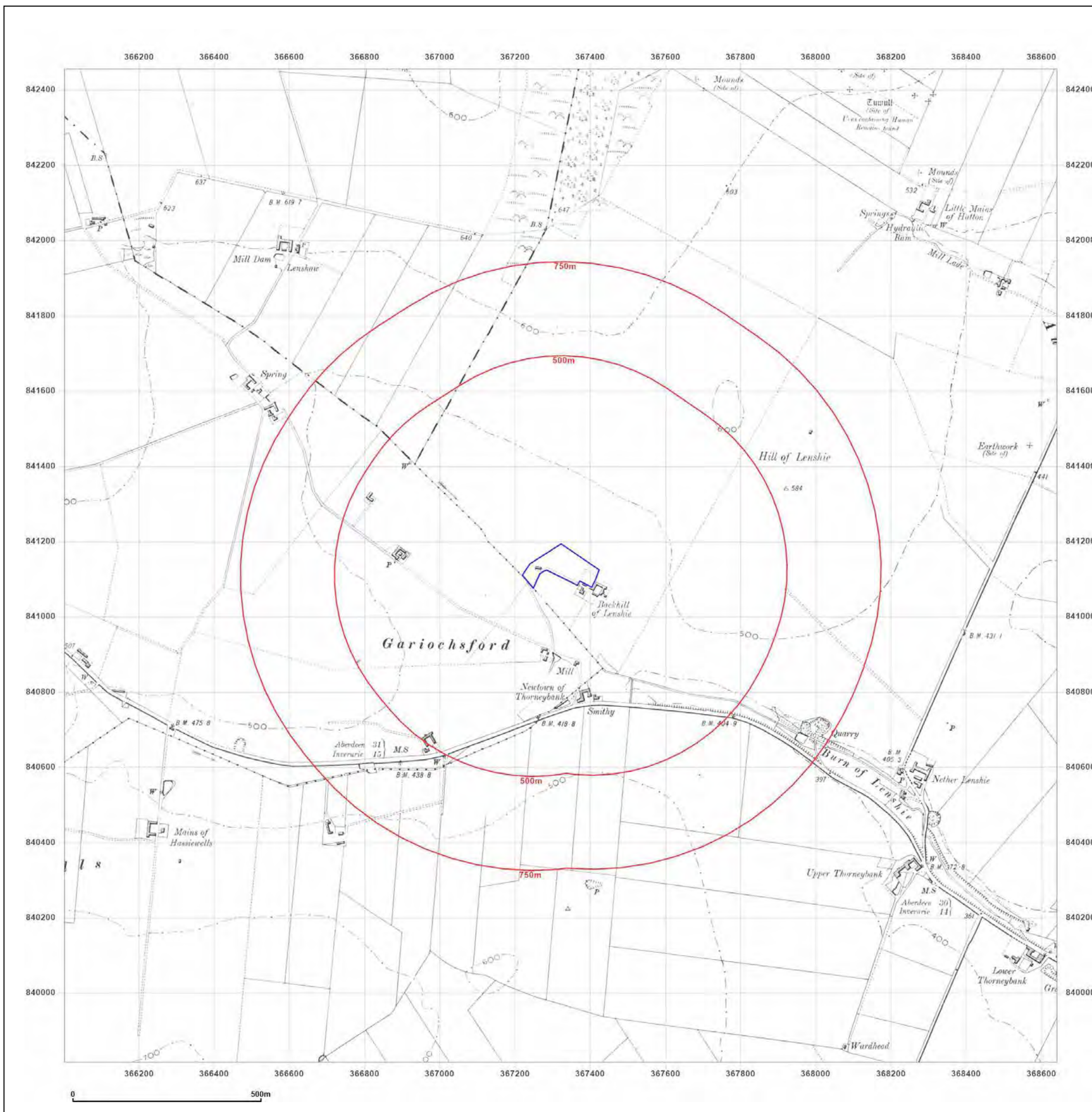


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: Provisional

Map date: 1955

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1955
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Edition N/A
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Surveyed 1955
Revised 1955
Edition N/A
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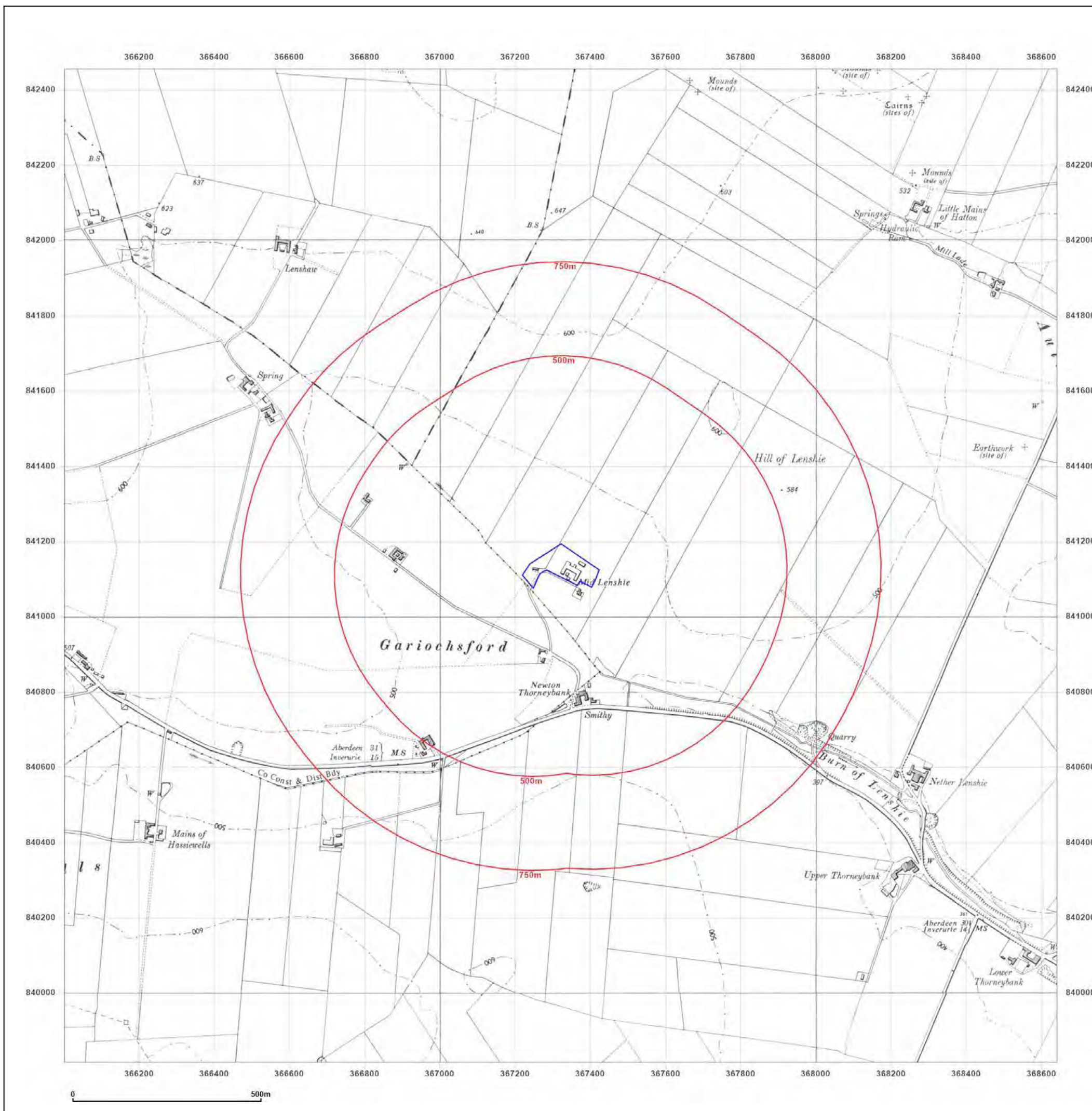


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: National Grid

Map date: 1982

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1981
Revised 1982
Edition N/A
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Revised 1982
Edition N/A
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Levelled N/A

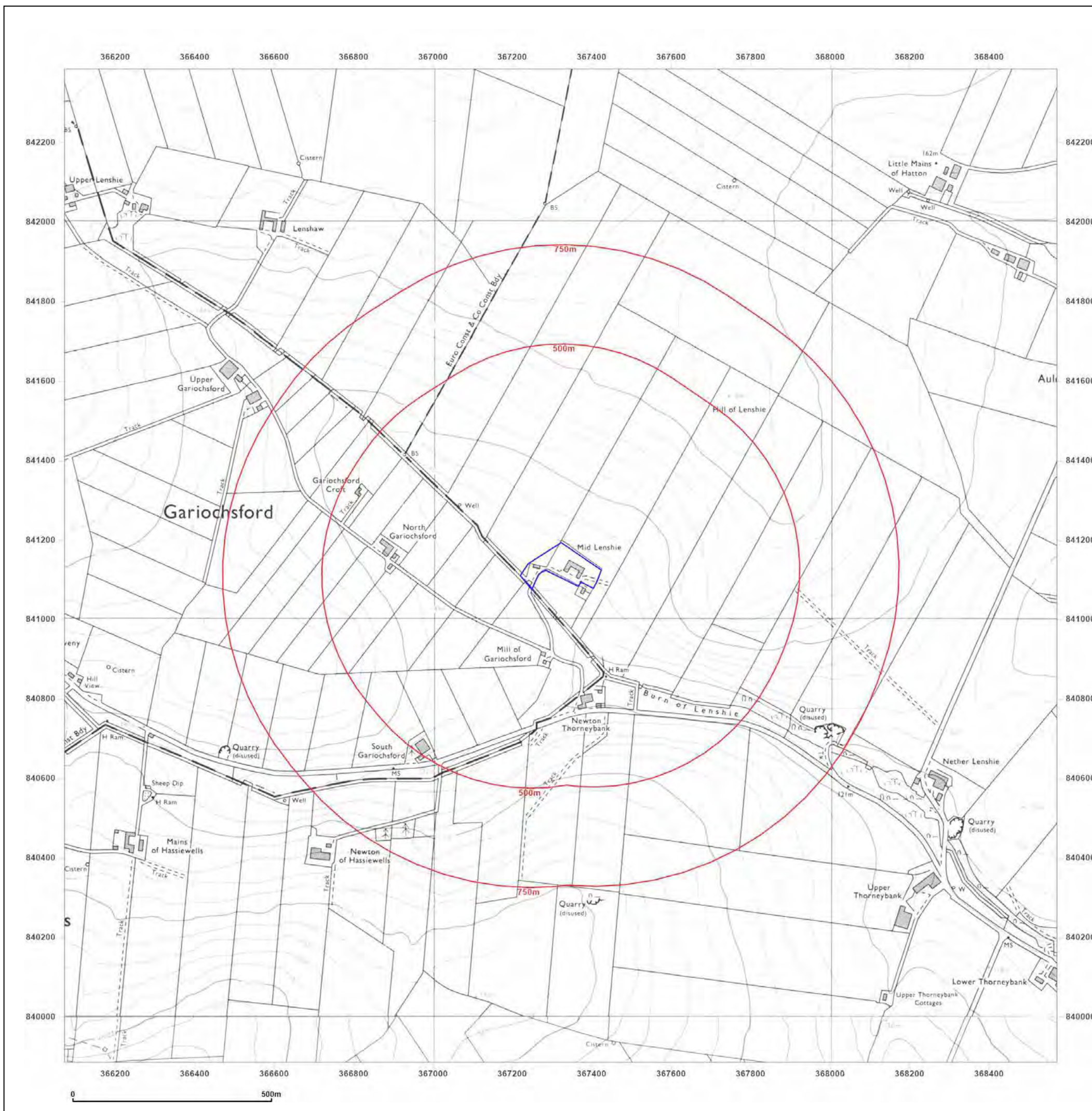


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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

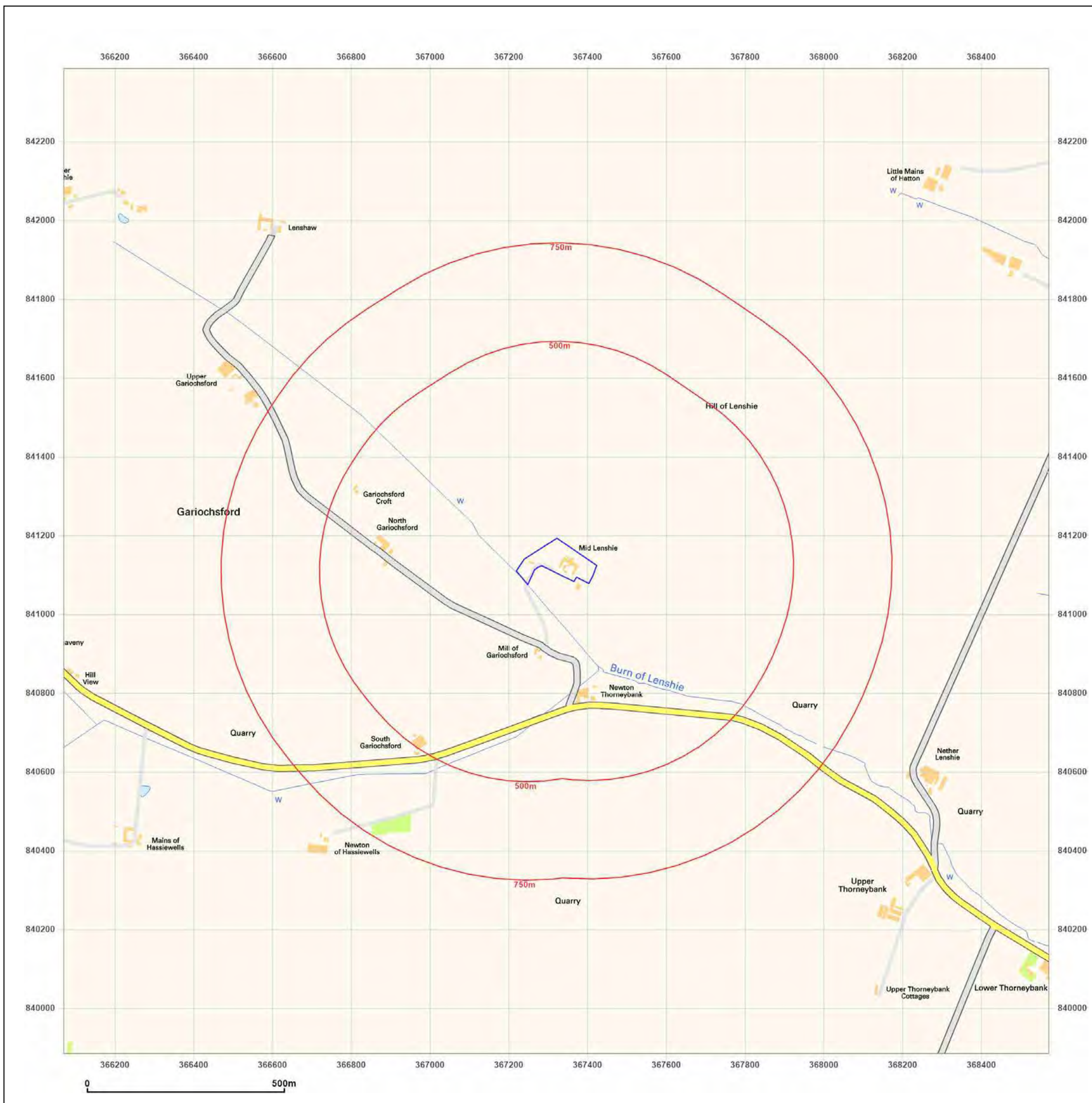


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Site Details:

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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

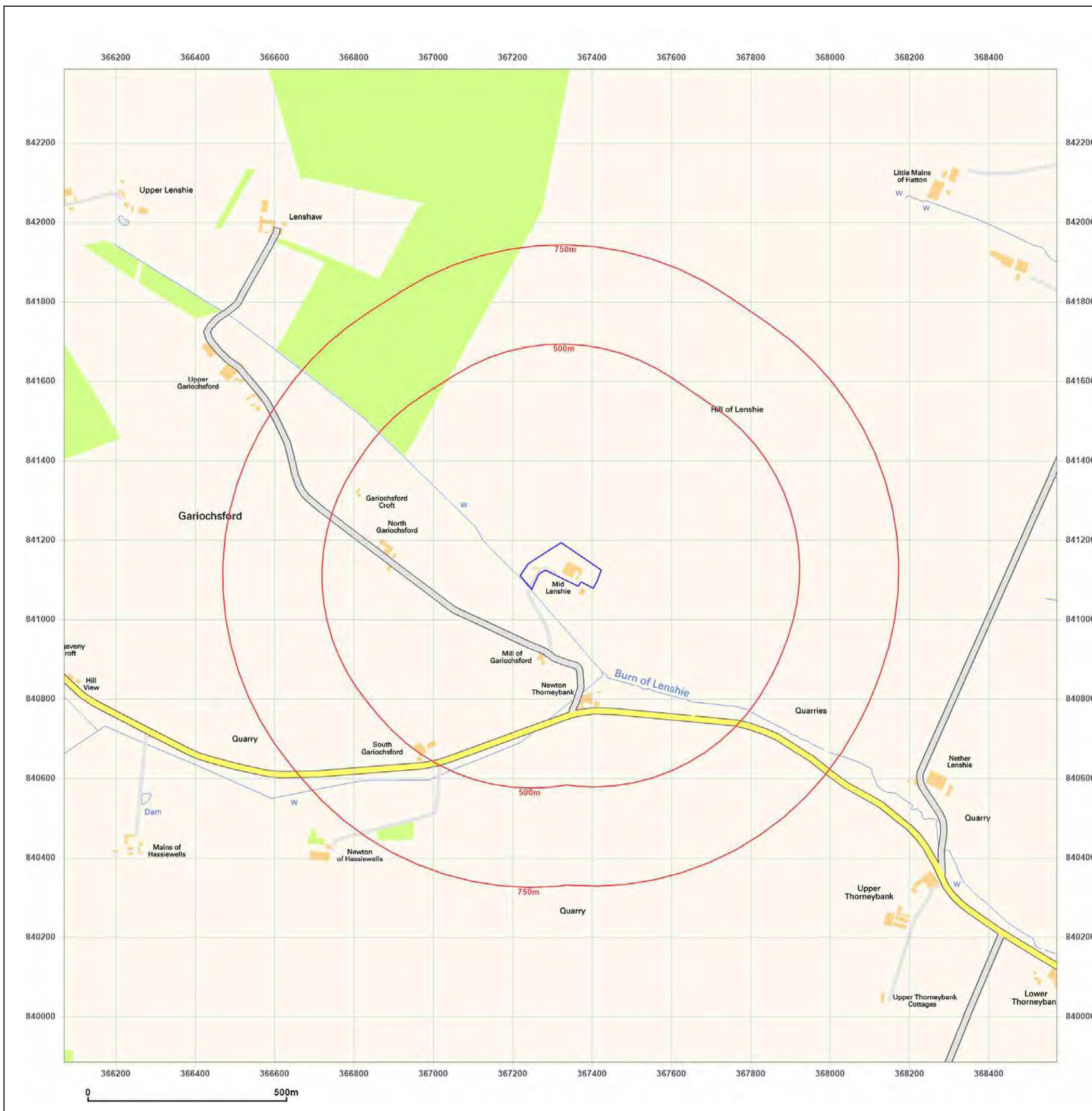


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Site Details:

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Client Ref: ESL2127
Report Ref: GS-7673889
Grid Ref: 367321, 841135

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000

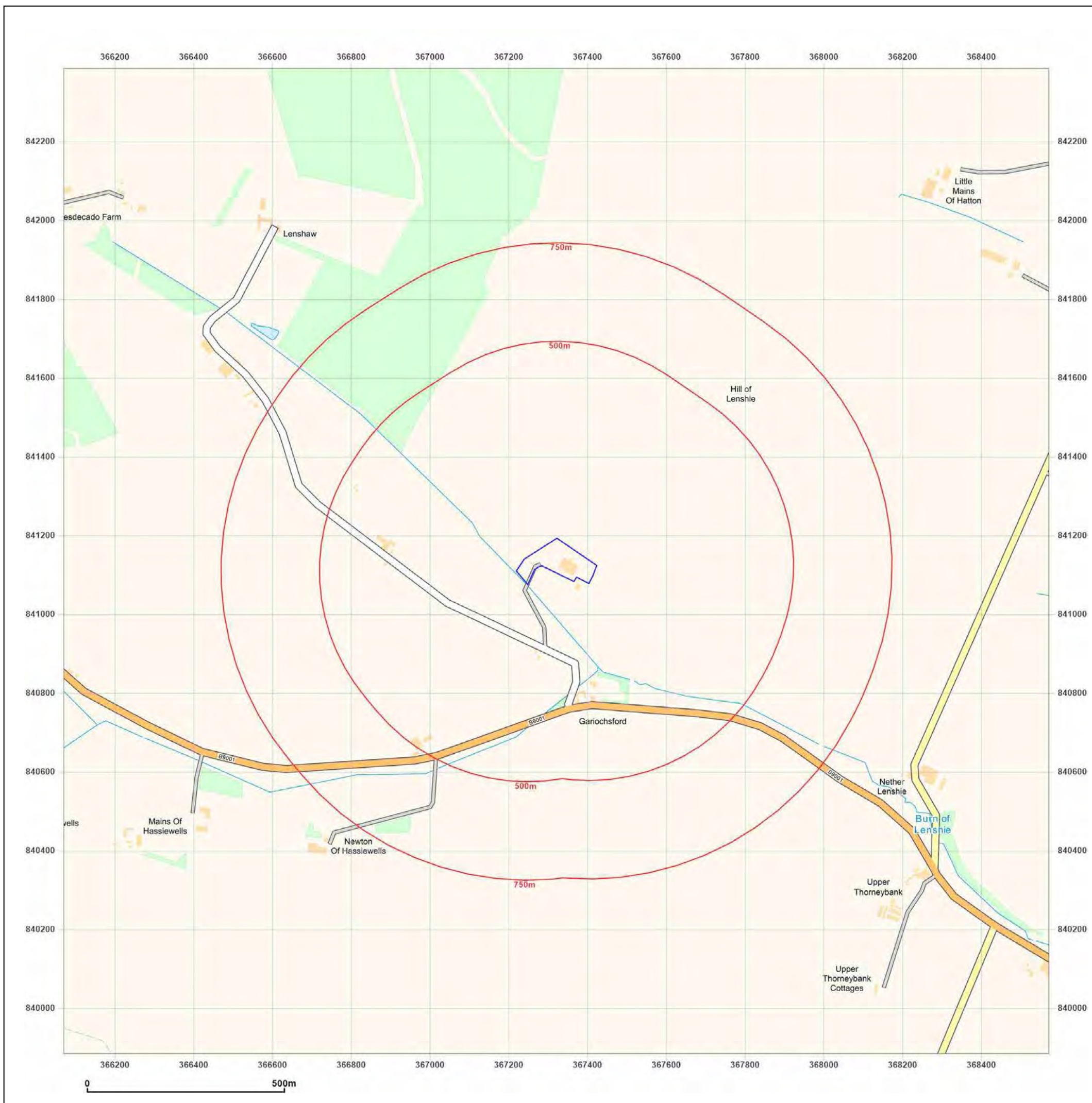


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Production date: 19 March 2021

Map legend available at:
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APPENDIX C - Photos

APPENDIX C -

Current bothy building – stands alone to the west side of the site.
Stone built with corrugated metal roof.



Bothy- east gable end seen, sits in its own garden, with fields on all sides, and Lenshie Burn forms the southern boundary of the garden



Bothy garden leading down to the burn beyond the fenceline



Bothy garden- adjacent to open pasture beyond in all directions.



West end of bothy is an animal stall- walls collapsing and supported



Bothy west end animal stall



Bothy- inside are 2 rooms – this is the west end room



Bothy- east end room was later used for small animals and penned off



Farmland to the NW of the site, a small part of which is within site



Yard area west of the main steading building - steel portal building stored here



Metal roof sheets stored to west of main steading



View from bothy looking NE towards the main farm building, closest side is annotated 2a in the site plan



Building section 2a - closer view, stone with slate roof. West façade of the main farm building.



Building 2a front door locked but can be seen as empty concreted space from a doorway in section 2b



Steading section 2b- west end – former animal byre with concreted floor and raised walkway



Building 2b is the north section of the main steading – this is a view of the west end with 2e and 2d noted



Building 2d is a lean-to of stone and corrugated metal roof on the rear of the main steading, which housed an electric grain dryer



2d- electric grain dryer inside



1940's invalid carriage in building 2d



Land to the north side of the steading and separate from the field



North façade of the main steading – 2e is a projection from this (2d)



Section 2e leads to grain chutes



Section 2e – inside view, empty but electric for grain dryer on the wall, and access through to wooden grain chutes in centre of the building



Wooden grain chutes are located in the centre of building 2b, seen from 2e



East side of main building showing 2c 2b 2e



Closer view of east end of section 2b of the main steading, north facade



East façade of section 2c has partial roof replacement with metal sheet



Inside section 2c is furniture storage on a concrete floor



Section 2b- east end- inside view of this former livestock pen



View of the main yard area (3 and 4 on plan) looking west to section 2a



View across the yard from the SE corner of the courtyard



A retaining wall around the building is collapsing in many places



NE corner of the courtyard shows the block supporting wall is almost entirely gone and subsidence of soil below the building occurring



Retaining wall along the east side of the courtyard also collapsing



Building 5 -a small bothy with chimney at one 1 end. Locked up.



Building 5 is stone with slate roof and metal guttering, in good repair.

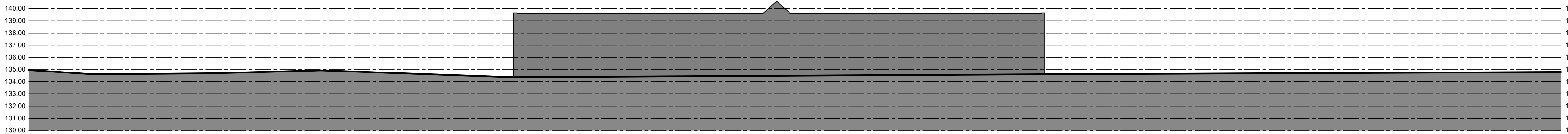


APPENDIX D - Site plans



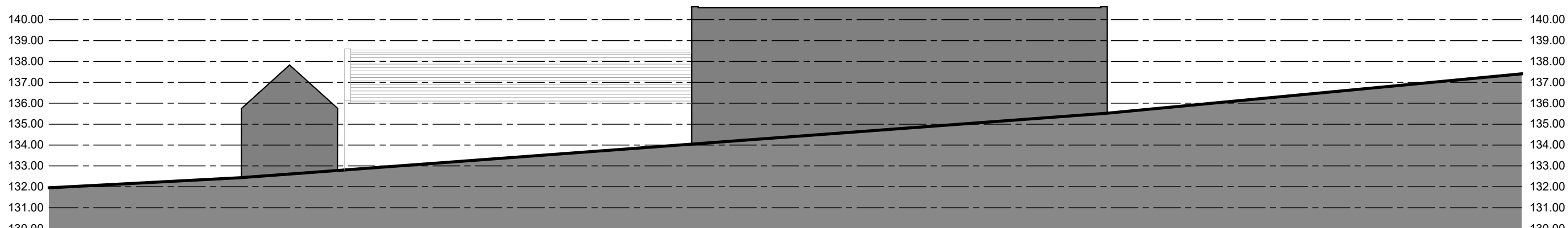
Existing Site Plan

Scale 1:250



Site Section A-A

Scale 1:200

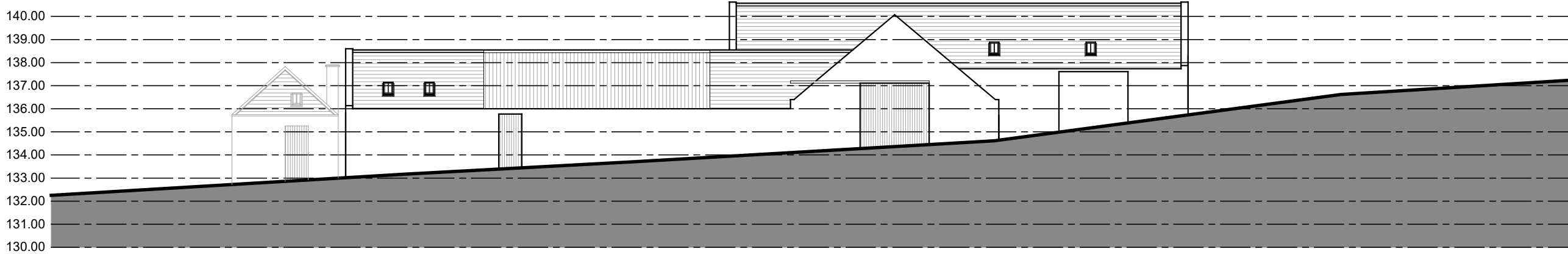


Site Section C-C

Scale 1:200

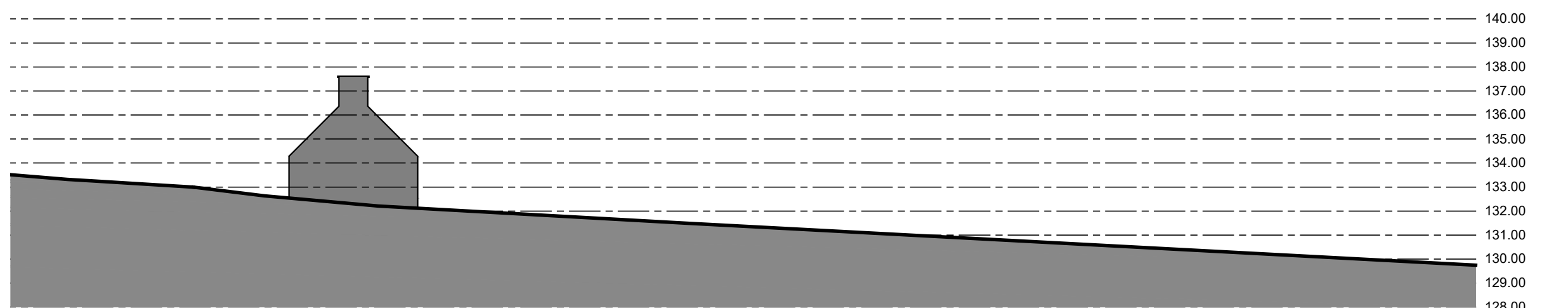
Site Section D-D

Scale 1:200



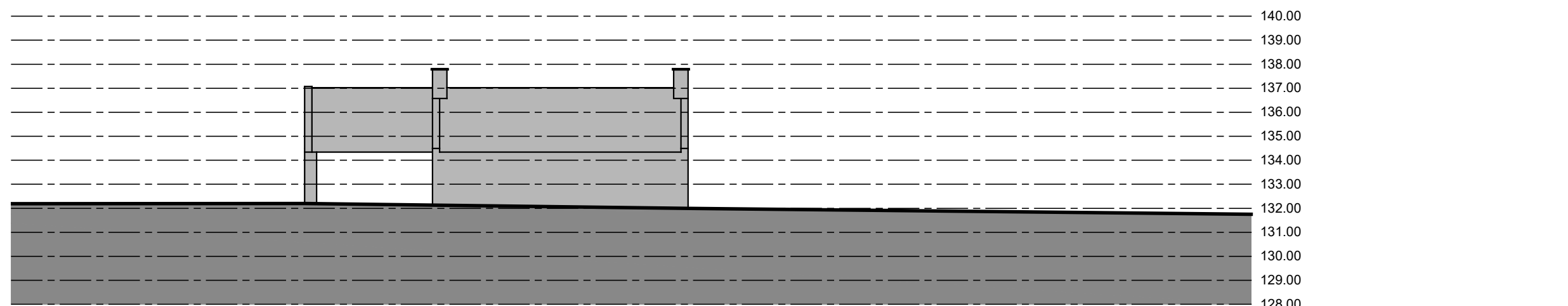
Site Section B-B

Scale 1:200



Site Section E-E

Scale 1:200



Site Section F-F

Scale 1:200



Existing Steading



Existing Steadings

Rev.	Details	Date	By



Proposed Site Plan
Scale 1:250

Project Demolition of existing steading & botby and Erection of 4 No. replacement dwellinghouses Site at Mid Lenshie, Robbenorm, Inverurie, AB51 8XU For: Mr Peter Forsyth		 JOHN WINK DESIGN CIAT REGISTERED PRACTICE
Planning - Site Layout		
Scale As noted @ A0	Date February 2021	
Revision -	Day No 2319-020	
<small>1-01464 841113 e-office@johnwinkdesign.co.uk Midtown of Fouldard Glens of Fouldard Hurly Aberdeenshire AB54 6AR Notes: Dimensions must not be scaled from this drawing. If in any doubt, send all dimensions to be checked prior to work commencing or prior to any components being manufactured. Any discrepancy to be reported. All work and material to comply fully with all current British Standards, Codes of Practice, building regulations, etc. separate from all 1:250 scale This drawing is copyright of John Wink Design. ©</small>		

