

Former Clifton Caravan Sales
Morpeth, Northumberland

Phase 1 Geoenvironmental Appraisal & Coal Mining Risk Assessment

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A

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Contents

1.	Introduction	1
2.	Site Details.....	3
3.	Geoenvironmental Assessment	4
4.	Previous Investigations.....	8
5.	Coal Mining Risk Assessment.....	9
6.	Conceptual Site Model	13
7.	Conclusions	16

Appendix A – Figures

Appendix B – Historical OS Maps

Appendix C – Environmental Database

Appendix D – Coal Authority Report

Executive Summary

Site Description	A 2.9ha plot of land off the A197, Clifton, Morpeth. The site is currently occupied by a former caravan, sales, storage and maintenance yard with gravel and asphalt surfacing and landscaping. Trees surround the site at most boundaries.
Site History	The site was farmland until development of West Clifton Colliery in the 1930s until the late 1940s. Recent occupation of the site has comprised caravan storage, maintenance and sales. A tributary of the Coal Burn which flows through the site from west to east is in culvert across much of the site.
Anticipated Geology	Made ground associated with past activities up to 2.3m thick. Superficial deposits are indicated to comprise predominantly glacial clay with discontinuous bands of sand which are anticipated to be <5m thick. Bedrock comprises mudstone, siltstone or coal of the Penning Lower Coal Measures, with the Three Quarter, Brockwell and Victoria coal seams all likely to underlie the site at variable depths.
Mining & Natural Cavities	A potential risk of the site being affected by shallow coal mine workings within the Brockwell and Victoria coal seams. Further investigation is required. The location of two adits needs to be confirmed to assist with proposed layouts.
Contamination	The risk of significant contamination on site is considered to be low based on the results of previous investigations and nature of past historical activities.
Environmental Considerations	Superficial Geology: Secondary Undifferentiated Aquifer. Solid Geology: Secondary A Aquifer. Tributary of Coal Burn in culvert beneath the site.
Ground Gas	The risk of the site being affected by ground gas is considered to be low to moderate. No radon protection measures are required.
Flooding	The east of the site is indicated to lie within an area at risk from surface water flooding. The site does not lie within a Flood Zone 2 or 3.
Slope Stability	No significant slopes are anticipated at the site.
Infiltration Drainage Potential	Soakaways are considered unsuitable for this site at this stage due to the presence of made ground, mine entries and low permeability drift soils.
Preliminary Foundation Assumptions	Traditional spread or trench fill foundations should generally be suitable for low rise housing, subject to the results of the ground investigation, proposed structural loads, depths of made ground and any requirements for stabilisation of shallow mine workings. Ground bearing floor slabs may be feasible subject to made ground being less than 600mm thick otherwise suspended floor will be required.
Preliminary Abnormal Development Constraints	Potential shallow coal mining below site. Three mine entries within the site will need to be located and treated or provided with no build zones. Made ground soils are anticipated to provide a design CBR of <2% subject to confirmatory testing and are anticipated to require maximum capping thickness. Made ground may be unsuitable for re-engineering/ re-use – costly to dispose off-site. Subject to development levels, earthworks testing and reporting may be required.
Recommendations for Ground Investigation	Rotary drilling to investigate mine workings. Excavations to investigate adit mine entries. Window sampling and trial pits to obtain samples for laboratory analysis. Installation of gas monitoring standpipes and monitoring over an appropriate period of time. Laboratory chemical and geotechnical testing of soils.

The above summary should not be used in isolation and reference should be made the full report which provides a detailed assessment of the risks affecting the development

1. Introduction

1.1 Commission

Coast Consulting Engineers Ltd (Coast) was commissioned by Northumbria Homes Ltd (NHL) to produce a Phase 1 geoenvironmental desk study and coal mining risk assessment for a proposed residential development at Clifton near Morpeth Northumberland. A site location plan is presented as Drawing No. 20004-01 in Appendix A.

1.2 Proposals

It is understood that NHL propose to construct residential housing with gardens and associated infrastructure at the site. It is understood that NHL require a new Phase 1 report to aid their understanding of the site and its abnormal development risks. A proposed development layout is presented as IDP (Scotland) Drawing No. 1185 – L001 B in Appendix A.

1.3 Objectives

The objectives of the investigation were as follows:

- Assess the land-use history using available historical plans;
- Describe the environmental setting of the site, including details of the geology, hydrogeology and hydrology;
- Provide information on ground conditions using published data;
- Assess potential impacts of past mining;
- Review whether the site had previously been used for a purpose that may have given rise to significant ground contamination;
- To assess the potential for hazardous ground gas.

This report presents the factual information available during this appraisal, interpretation of the data obtained and recommendations with respect to future development. It has been assumed in the production of this report that the site is to be redeveloped for an end use comprising residential with home grown produce.

1.4 Information Sources

The study has included an inspection of historical and geological maps, a review of environmental data held on publicly available registers a site-specific Coal Authority report and other sources as appropriate:

1. Emapsite Groundsure reports which include but are not restricted to the following data: Historical OS maps; Environmental & Hydrological; Waste; Hazardous Substances; Geological; Industrial Land-Use; Sensitive Land-Use; Past Historical Land-Use;

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2. British Geological Survey (BGS) GeoIndex;
 3. BGS Geological Map, 1:10,000 scale, Sheet Ref. No. NZ18SE & NZ28SW;
 4. Coal Authority (CA) Interactive Map. For any site identified to lie within a coal mining reporting area, searches are extended to include a CA Consultants Mining Report and a review of data held by the Durham Mining Museum.
 5. Local Authority Planning Portal.
 6. Dunelm Geotechnical and Environmental – Geoenvironmental Appraisal for Clifton Caravan Park, Morpeth, Ref: D6185, dated 29th May 2014.
 7. Dunelm Geotechnical and Environmental – Mine Shaft Investigation, Ref: D6185, dated 10th Nov 2014.

1.5 Limitations

This report has been prepared for NHL and their appointed agents only and should not be relied upon by any third party without the written permission of Coast. If any unauthorised third party comes into possession of this report, they rely on it at their own risk and the authors do not owe them any Duty of Care or Skill. This report is based on and limited to an assessment of the information provided in Section 1.4.

2. Site Details

OS Grid Reference	420042E 583150N.
Site Area	Approximately 2.9 hectares (7.15 acres).
Location	The site is located to the west of the A197 and to the east of the A1 highway in Clifton, Morpeth, Northumberland, approximately 1.8 miles south of Morpeth Town Centre.
Description & Topography	The site forms an irregular shaped plot of land, approximately 350m long and 95m wide. The land rises steadily in elevation from c. 71m AOD in the east to c.79m AOD in the west. The site comprises predominantly gravel surfacing interspersed with asphalt hard standing and scrubland areas. Trees are present along most boundaries of the site including a small wooded area in the west and several mature trees located centrally. A concrete retaining walled feature is present in the centre of the site, with former office buildings, a garage and storage structures present in the east adjacent to the main access road off the A197.
Adjacent Land Use	North: public open space, stream and allotment gardens. South: Private house and gardens and agricultural land. East: Clifton car sales, A197 highway and agricultural land. West: A1 highway and agricultural land.
Invasive Species	An ecology survey will be required to confirm the presence/ absence of invasive species.
Potential Constraints to Investigation/ Development	Mature trees present at the boundaries, centrally and in the west. Former foundations of structures. Mine Entries and potential shallow workings. Possible deep made ground.

3. Geoenvironmental Assessment

Published information reviewed including historical mapping, geological maps and memoirs and environmental database searches are included in Appendix B to D and Environmental data searches are included in Appendix C. A Coal Authority mining report is included in Appendix D.

3.1 Historical Site Development

A brief summary of the salient points relating to the history of the site interpreted from historical Ordnance Survey mapping and online aerial photography is presented below. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site or its component areas, only those which could have an impact on development potential.

Map Dates	On-Site Features	Off-Site (relevant features within 500m)
1855 - 1938	The site comprises farmland with a stream flowing from west to east through the centre of the site. track trending west to east in the south which remains until the 1950/60s.	An "Old Quarry" is recorded 100m to the south from 1855 and becomes a pond up to the present day. Clifton Crag Quarry and plantation are recorded 180m to the west. Clifton Lodge is present from 1896 100m to the south east. The Catch Burn is present flowing from west to east approximately 400m to the north. Catchburn Colliery (Drift Mine) is present c. 140m south east from the 1920s but not indicated by 1938. The hamlet of Clifton is present 400m south east.
1938 – 1980s	Several structures of unknown purpose are present within the site and vary in layout and size up to 1960. A single small railway line and spoil heaps are noted from 1948 until the 1970s. The stream is partly in culvert by 1960. The spoil heaps appear to have been remodelled by the late 1960/70s.	The A1 is constructed during the late 1960/70s to the west. Clifton Garage (Now Clifton Car Sales) is present from the 1960s to the present at the boundary in the east.
1980s - Present	The majority of former structures have now been replaced and the site is operated as a caravan sales centre until recently.	A nursery/ garden centre is present 110m south from the 1980s but is disused after 2002 and redeveloped by housing by 2014.

3.2 Geology and Mining

Made Ground	Made ground associated with colliery spoil is noted on historical maps in the west and also on published geological maps. Previous investigations recorded such deposits extending to a maximum depth of 2.3m bgl.
Superficial Geology	BGS maps record Glacial Till (Glacially deposited clay with variable quantities of silt, sand and gravel). Based on previous investigations within the site such deposits are anticipated to be c. 2.5-4.5m thick.

<p>Solid Geology</p>	<p>Carboniferous Pennine Lower Coal Measures (mudstone, siltstone or coal) strata is present at shallow depth (c <5m bgl). The shallowest coal seam beneath the site is conjectured to be a thin seam overlying the Three Quarter (R) seam (up to 0.84m thick) which is also indicated to sub-crop beneath the site. The Brockwell (S) seam (up to 1.22m thick), Victoria (T) seam (up to 0.87m thick) and Marshall Green (U) seam (thin) are also conjectured to be present underlying the site.</p>												
<p>Mining & Natural Cavities</p>	<p>Development High Risk Areas associated with past known and probable coal mine workings at sub-crop are present beneath the eastern three-quarters of the site. A further development high risk area associated with a coal seam at crop is noted in the west (Three Quarter seam). The CA mining report records workings beneath the site in 1 seam of coal (Victoria seam) at 22m bgl and 40m bgl with an extraction thickness of 0.6m and 0.7m. The seam is recorded by the Coal Authority to dip between 3.6° to the south east and 6.1° to the south.</p> <p>The Coal Authority report confirms the presence of three mine entries within the site:</p> <table border="1" data-bbox="643 801 1428 931"> <thead> <tr> <th>CA Ref</th> <th>Type</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>419583-005</td> <td>Adit</td> <td>None available</td> </tr> <tr> <td>419583-006</td> <td>Shaft</td> <td>Filled to unknown specification in 1947</td> </tr> <tr> <td>420583-002</td> <td>Adit</td> <td>Filled to unknown specification in 1947</td> </tr> </tbody> </table> <p>The report also noted the presence of the Three Quarter seam at sub-crop beneath the site and the Brockwell seam likely to underlie the site at shallow depth. Both are suggested by the Coal Authority to be of workable thickness.</p> <p>A previous investigation (Ref: 7) to locate the mine shaft and adit in the north of the site, failed to determine the exact location of the mine adit but did reveal a concrete slab (3m x 5m and 0.8-0.9m thick) in the approximate location of the mine shaft.</p> <p>The Coal Authority records an unlicensed opencast site 475m to the ESE of the site. The Groundsure report contains no records of other mining activities, or known natural cavities recorded within 500m of the site. A mining cavity is noted in the Groundsure report 102m to the south. However, this feature is the former quarry noted on historical plans and is most likely not related to mining activities.</p> <p>Durham Mining Museum indicates that the West Clifton Colliery was present within the site which opened in 1930 and closed in 1947. The colliery is indicated to have worked the Beaumont (Top Busty (Q1) and Brockwell (S) coal seams). Based on the geology of the site and known presence of the Catchburn Colliery immediately adjacent to the east it is considered that the Beaumont seam was not worked beneath the site but within the Catchburn Colliery Drift to the south east.</p>	CA Ref	Type	Details	419583-005	Adit	None available	419583-006	Shaft	Filled to unknown specification in 1947	420583-002	Adit	Filled to unknown specification in 1947
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420583-002	Adit	Filled to unknown specification in 1947											
<p>Faults/ Linear Features</p>	<p>None recorded on site. A fault (The Stakeford South Fault) is located to the immediate south of the site trending roughly west to east with unrecorded downthrow to the north.</p>												
<p>Quarrying</p>	<p>With the exception of ancient quarries (100m to the south and 180m to the west, no other extractive activities are recorded on or immediately adjacent to the site.</p>												

3.3 Hydrology, Hydrogeology & Flooding

Watercourses & Surface Water Features	<p>A small tributary of the Coal Burn is present crossing through the site from west to east (predominantly in culvert). The Catch Burn is present 386m north west and flows from west to east.</p> <p>A surface water pond associated with a former quarry is present 100m to the south.</p>
Flood Risk	<p>The site does not lie within a fluvial flood plain (Flood Zone 2 or 3) considered to be at risk of flooding.</p> <p>The extreme east of the site is indicated to lie within a 1 in 30-year risk of surface water flooding between 0.3m and 1.0m depth.</p> <p>The site is indicated to lie within an area considered to have low risk from groundwater flooding.</p>
Groundwater Classification	<p>Superficial Geology: Secondary Undifferentiated Aquifer. Solid Geology: Secondary A Aquifer.</p>
Source Protection Zones	<p>The site lies within Source Protection Zone 3 (total Catchment).</p>
Issues/ Springs / Wells	<p>The source of the stream present within the site originated from the former quarry 180m to the west.</p> <p>An historical pump associated with Clifton House and a former well to the west of the site (now A1 highway) are noted on historical maps within 250m of the site but are now no longer indicated.</p>
Licensed Surface Water Abstractions	<p>None recorded within 1km.</p>
Licensed Groundwater Abstractions	<p>One recorded 1784m west as a potable water supply operated by Northumbrian Water.</p>
Discharge Consents	<p>Six entries (three revoked) are recorded associated with Heron Service Station (now Clifton Car Sales) for sewage and trade effluent discharges into the Catch Burn Tributary (Coal Burn).</p>
Pollution Incidents	<p>One recorded as a minor (Category 3) land and water impact associated with contaminated mine water noted in 2001.</p>

3.4 Waste & Landfills

Landfill Records	<p>The site is recorded as a historic waste site based on historic mapping (colliery spoil waste).</p> <p>No EA landfill records within 500m. No BGS landfill records within 500m. No Local Authority / Historical landfill records within 500m.</p>
Other Waste Transfer, Treatment or Disposal	<p>None recorded within 500m.</p>

3.5 Environmental Register Licences and Permits

Historical IPC Authorisations	None recorded within 500m.
Part A (1) and IPPC Authorised Activities	None recorded within 500m.
Red List Discharge Consents (potentially harmful discharges to controlled waters)	None recorded within 500m.
List 1 and List 2 Dangerous Substances Inventory Sites	None recorded within 500m.
Petrol Filling Stations/ Repair Garages (Historical and Current)	A historical garage is recorded 14m to the south east (Formerly Heron Service Station, now Clifton Car Sales).

3.6 Other Environmental Database Entries

No other environmental designations are indicated within 500m of the site.

3.7 Hazardous Ground Gas Sources

3.7.1 Naturally Occurring Gas

Possible alluvial soils associated with the adjacent stream may have the potential to generate ground gases such as methane and carbon dioxide. However, as the stream is predominantly in culvert through the site.

3.7.2 Landfill Gas

There are no operational or closed landfills within 500m of the site that could represent a source of ground gas. The site is known to contain made ground associated with colliery waste. However, these soils are likely to be relatively thin and were deposited >70 years ago.

3.7.3 Mine Gas

There are no records of any mine gas emissions within or within 500m of the site held by the Coal Authority. Mine entries are recorded within the site which include a mine shaft and two mine adits which may present a preferential pathway to mine gas. Shallow mine workings are also believed to be present below the site.

3.7.4 Radon

The Groundsure report assesses radon risk using data supplied by the Health Protection Agency (now Public Health England) along with BRE Document 'BR 211 - Radon: Guidance on the Protective Measures for New Dwellings'.

The report indicates that the site lies within an area where no radon protective measures are currently required.

4. Previous Investigations

4.1.1 Dunelm Geotechnical and Environmental Ltd (May 2014) Ref: 6.

A desk study and shallow ground investigation was undertaken within the subject site. Pertinent information relating to that investigation is reviewed below.

The ground investigations consisted of min-boreholes extending to depths of up to 4.45m bgl. The investigations generally revealed made ground up to 2.3m thick but more typically c. 1.2m thick comprising largely cohesive and granular colliery spoil including red-shale. Underlying natural soils comprise largely firm and stiff glacial clay with discontinuous bands of sand and proven to depths of up to 4.45m bgl. Rockhead was not proven but a number of boreholes refused on hard obstructions.

Limited laboratory testing for metals, inorganic and organic contaminants was undertaken. Exceedances of polyaromatic hydrocarbons (PAHs) were noted within the made ground in two localities. That exceeded the GAC for a residential with plant uptake (now with home grown produce) end-use. Remediation proposals included the provision of a clean cover system (600mm thick) to break the pollutant linkage.

The investigation concluded that no remediation requirements were needed but that additional work would be needed in areas not accessible during that investigation.

Ground gas monitoring identified was undertaken on one occasion and recorded no methane and carbon dioxide at 1.1%. No other mine related gases (Carbon monoxide or hydrogen sulphide) or borehole flow rate was detected. Monitoring is noted to be ongoing but a final assessment report was not available for review at the time of writing.

Further investigations to confirm shallow mine workings presence and the locations of the mine entries within the site was proposed.

Foundation proposals comprised strip or trench fill foundations would be appropriate subject to any requirement of grouting of shallow coal seams and structural loads.

4.1.2 Dunelm Geotechnical and Environmental Ltd (November 2014) Ref: 7.

This report details the findings of the works to locate the mine shaft (419583-005) and mine adit (419583-006). A geophysical survey was undertaken across the site to assist with location of the mine entries. A feature suspected as the mine shaft cap was excavated and revealed a concrete slab (with no apparent reinforcement) 3m (W) x 5m (L) x 0.8-0.9m (H) at approximate grid reference NGR419984, 583140. No further investigation of this feature was undertaken.

Attempts to locate the adit in the north using excavation techniques were performed but hampered due to restricted access because of a steep slope. Colliery spoil was noted to be widespread in this area but no evidence of the adit was identified.

No information to confirm that rotary drilling for shallow coal mine workings was completed at the site is available.

5. Coal Mining Risk Assessment

This coal mining risk assessment (CMRA) has been carried out using the Coal Authority guidance document 'Risk Based Approach to Development Management, Guidance for Developers', Version 4 (2017).

The objectives of the CMRA are as follows:

- Present a desk-based review of all available information of the coal mining issues which are relevant to the application site.
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues.
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development.
- Demonstrate to the Local Planning Authority that the application site is, or can be made safe and stable to meet the requirements of national policy with regard to development on unstable land.

5.1 Sources of Information Used to Inform This Report

The following sources of information have been used in the production of this assessment:

- Historic Ordnance Survey maps.
- Published geological information from the British Geological Survey: Sheet NZ28SW Morpeth 1:10,000 scale.
- Coal Authority Interactive Viewer and Coal Authority Consultants Report.
- British Geological Survey GeoIndex.
- Durham Mining Museum records.
- Online historical aerial photography.
- Dunelm ground investigation and mine entry investigation reports (Ref 6 & 7).
- Northumberland County Council (NCC) online Planning Portal.

5.2 Historical Review

Historically, the local context of the area is one of extensive coal mining and quarrying with historical Ordnance Survey maps highlighting these activities having occurred within the wider area.

Catchburn Colliery (Drift mine) is noted to have been operational for a short period at the turn of the 20th century closely followed by the West Clifton Colliery (on-site) from the 1930s until 1947. Three mine entries are present within the subject site with the Catchburn drift entry noted off-site to the south east.

An unlicensed opencast coal site is noted by the Coal Authority to have been present 475m to the ESE.

5.3 Geology

With reference to available geological information BGS sheet NZ24SE the site is indicated to overlie superficial deposits of glacial till (Clay) and solid strata of the Pennine Lower Coal Measures. Two coal seams are indicated to sub-crop across the development area; a thin coal and the Three Quarter Coal (0.84m thick).

The Brockwell (S) and the Victoria (T) seams are indicated to underlie the site at depth being up to 1.22m thick and up to 0.87m thick respectively. BGS Borehole NZ28SW52, located 50m to the north east of the site confirmed drift cover to be c. 4.5m thick with backfilled workings suspected to be associated with the Brockwell seam (up to 1.98m thick) at c. 23m bgl. The Victoria seam (intact) was recorded at c. 46m bgl (c. 0.46m thick) at that locality. A second BGS Borehole (NZ28SW51) located 280m to the north of the first records the Victoria seam to be 0.55m thick at c. 32m bgl at that locality.

The coal authority viewer confirms that development high risk areas are present across the site associated with both known and probable shallow workings. Three mine entries are indicated to be present within the site.

5.4 Previous Investigations

Investigations by Dunelm in 2014 included the drilling of several mini-boreholes within the shallow soils including excavations to locate the mine shaft and one of the adit entries within the site. The investigations proved up to 2.3m of made ground overlying superficial glacial drift soils comprising largely cohesive soils. A suspected shaft cap was recorded in proximity to the location of the mine shaft but no evidence of the adit was found. No rotary drilling to confirm shallow mine workings is believed to have been completed.

5.5 Identification & Assessment of Site Specific Risks

CIRIA Abandoned Mine Workings Manual C758D states that the maximum height of collapse is often taken as five to ten times the seam thickness. This is further reiterated in the Garrard and Taylor paper 'Collapse mechanisms of shallow coal-mine workings from field measurement', 1988. It is normal engineering practise to assume that there is a risk of surface instability if there is less than ten times seam thickness cover above any worked coal seam. It should be noted that competent cover means rock and (superficial deposits such as glacial till do not contribute to this cover).

Recorded workings within the Victoria seam with an extractable thickness of c.0.7m are identified by the Coal Authority ranging in depth from 22m bgl to 40m bgl beneath the site. BGS boreholes off-site to the east suggest workings in the Brockwell seam at 23m bgl and

c. 2m thick which is consistent with the expected thickness of the Brockwell from BGS mapping. The Victoria seam is recorded at a depth of 46m bgl nearby which suggests approximate dip down to the south east. Given the presence of the Brockwell and Victoria seams to be present at shallow depth beneath the site a potential exists for failure at the surface as a result of mine collapse.

The table below summarises the potential risks associated with coal mining legacy for the proposed development site, identified from the sources presented above.

Coal Mining Issue	Yes	No	Risk Assessment
Underground Coal Mining within influencing distance of the surface	X		The Coal Authority indicates that the shallowest worked seam is the Victoria seam at between 22-40m bgl. In addition BGS records also suggest that the Brockwell seam may also have been worked beneath the site due to goaf workings being identified at 23m bgl in a nearby borehole. The site is indicated to lie within an area of known and probable shallow workings on the CA interactive viewer.
Underground Coal Mining (probably at shallow depths)	X		The Coal Authority online database records the site to be in an area of probable shallow coal workings. A BGS borehole to the east identified goaf workings in the Brockwell seam at c. 23m bgl.
Mine Entries (shafts and adits)	X		The Coal Authority indicates that there are two adits and one mine shaft present within the site boundary. Previous investigations by others suggest that the mine shaft has been infilled and capped. The mine adits are yet to be located.
Coal Mining Geology (fissures)		X	There is geological fault off-site to the south with downthrow to the north.
Record of Past Mine Gas Emissions		X	The Coal Authority report confirms no recorded mine gas instances within 500m. The site has been occupied by structures following cessation of mining operations up to the present day.
Recorded Coal Mining Surface Hazard		X	The Coal Authority report confirms no recorded surface hazards within 50m
Surface Mining (Opencast Workings)		X	No evidence of surface workings is indicated within the site. An unlicensed opencast site is recorded 475m to the ESE.

5.6 Mine Gases

Thin drift deposits, potential shallow mine workings in two seams of coal and the presence of up to three mine entries within the site which may present a preferential pathway for mine gases are present beneath the site. However, no mine gas issues have been recorded by the Coal Authority and the site has previously been occupied by enclosed structures which has not resulted in any mine gas issues becoming apparent as far as is known. Presently, existing adjacent occupied structures are unlikely to benefit from ground gas protection measures due to the age of construction. No events of concern that could be related to mine gas are known to have occurred associated with the adjacent properties. No elevated concentrations of ground gases have been recorded within the site during the

previous investigation as far as the presented data suggests. On the balance of information the risk from mine gas is considered low to moderate until the results of additional ground gas monitoring can be undertaken.

5.7 Mitigation Strategy Proposed

At this stage it is considered that there is sufficient evidence to indicate that there may be a risk of shallow underground workings which could present a risk to the proposed development.

It is therefore considered that ground investigation in the form of rotary boreholes are required at this site. In addition, further investigation to locate the two mine adits is also recommended. It is advised that works to confirm the extent of the mine shaft are performed at such a time to allow grouting of the shaft infill at the same time. This will reduce mobilisation costs for this element.

It is recommended that a programme of gas monitoring is carried out to confirm the ground gas regime and aid the design of appropriate mitigation measures.

5.7.1 Coal Authority Permit

A Coal Authority Permit is required for intrusive activities which will disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits).

At this stage a Coal Authority Permit will be required to allow confirmatory investigations as to the presence of coal workings beneath the site and to locate the adit entries.

5.8 Conclusion

The site may be at risk from shallow coal workings and further mitigation is considered required. The following strategy is recommended:

- Carry out rotary drilling to assess the risk from potential mine workings;
- Locate and verify nature of the mine adits present within the site.
- Stabilise any coal workings within influencing distance of the surface, in accordance with CIRIA "Abandoned Mine Workings Manual" C758D, 2019;
- Relocate and probe followed by grouting of the mine shaft and construction of a new shaft cap in line with current design guidance.
- Carry out gas monitoring to establish if mitigation measures are required.

6. Conceptual Site Model

6.1 General

Risk to human health or environmental receptors is based on an assessment of one or more source-pathway-receptor linkages. The 'source' is any substance which has the potential to cause significant harm to a relevant receptor and the 'pathway' is any route by which contamination may travel to impact on a 'receptor'.

The Conceptual Site Model (CSM) summarises the principal contaminant sources, pathways and receptors for this site and the likelihood of the existence of a pollutant linkage. The assessment is based on a presumed end use of a residential development with homegrown produce.

6.2 Contaminants of Concern

The site history and recent investigations have confirmed that no significant contaminative processes have operated on or near to the site with the exception of coal mining. Previous investigations have recorded minor exceedances of PAH which may be associated with the presence of coal fines in the colliery spoil. Made ground has been proven to depths of up to 2.3m bgl but more typically 1.2m bgl. The following contaminants of concern may still be anticipated on site within previously non-investigated areas:

- Heavy metals, TPHs, PAHs and asbestos.

Given the absence of significant contamination having been identified within the Phase 1 area and lack of significant activity within the subject site, the risk to controlled waters (surface waters and underlying aquifers) is considered to be low.

The built environment could be impacted by potential contaminants in the made ground impacting on concrete and water supply pipework.

- Sulphates, TPHs and PAHs.

6.3 Hazardous Gas

In addition to the above, the anticipated presence of made ground deposits, mine entries and potential shallow coal workings are anticipated which are likely to provide a source of ground gas. However, the site has been occupied by enclosed structures for > 50 years with no record of any gassing issues. In addition, limited ground gas monitoring by others has not detected significant concentrations of ground gas. On balance of the information obtained to date it is considered that the ground gas risk at this site is low to moderate in accordance with CIRIA C665.

6.4 Phase 1 Risk Assessment

The significance of the potential source-pathway-receptor linkages identified in the CSM can be assessed using the following criteria:

- Low risk – not likely to cause significant harm to human health or controlled waters. Remedial measures are not likely to be required;
- Moderate risk – it is possible that significant harm to human health or controlled waters could occur depending on site specific circumstances. Remedial measures may be required to mitigate potential risks;
- High risk – it is likely that significant harm to human health or controlled waters will occur unless appropriate remedial measures are incorporated into the development.

The potential pollutant linkages pertaining to the site and the assessed significance are summarised in the CSM table below.

Source	Pathway	Receptor	Pollutant Linkage: Assessed Risk
Human Health			
Made ground from former site activities (mining, caravan maintenance facilities etc)	Direct contact and ingestion/inhalation of contaminated soil and dust	Construction workers	Low: Previous investigations did not reveal significant concentrations of contaminants. Mitigated by use of appropriate PPE and good site practice
	Direct contact and ingestion/inhalation of contaminated soil and dust. Ingestion of home grown vegetables	End users	Low to moderate: Previous investigations revealed concentrations of contaminants above the GAC for the end-use. Mitigation measures may be required as part of the development to prevent end users coming into contact with made ground
Off-site sources of contamination: hydrocarbons from garage site to the east	Lateral migration through made ground or permeable natural soils	End users	Low: low permeable drift soils and the location of the former filling station are down gradient of the site.
Ground gas associated with made ground deposits, coal mining or volatile vapour	Vertical and lateral migration into confined spaces. Inhalation	End users	Low to Moderate: Gas monitoring will be required to confirm the ground gas regime
Controlled Waters			

Source	Pathway	Receptor	Pollutant Linkage: Assessed Risk
Made ground from former site activities (mining, caravan maintenance facilities etc)	Vertical and lateral migration	Secondary Aquifer s (Superficial & Bedrock). Coal Burn	Low: Limited contamination identified. Strata present below the site unlikely to promote contaminant migration into the deeper aquifers used for abstraction. Present watercourse in culvert beneath the site limiting leaching of contaminants into watercourse.
Built Environment			
Made ground from former site activities (mining, caravan maintenance facilities etc)	Direct contact with contaminated soil and water	Buried Concrete Water Supply Pipes	Low to Moderate: Mitigated by sulphate resistant concrete and robust water supply pipework

7. Conclusions

The following is a summary of the assessment made which will be preliminary until verification in the form of a suitably designed ground investigation with associated laboratory analysis is completed.

7.1 Contamination & Remedial Measures

The potential risk of significant contamination being present on this site is considered to be low based on previous investigations and the previous known site uses and activities. However, given the proposed change in use to residential properties it is likely that the existing soils comprising made ground will be unsuitable for the proposed end-use.

Based on the potential pollutant linkages identified during this assessment the following remedial actions may be required:

- Partial removal of impacted made ground soils followed by provision of a clean cover system in proposed gardens and landscaped areas;
- Possible localised removal of contaminated soils and groundwater; and
- Gas protection measures to all structures may be required.

It should be noted that the above potential remedial requirements will need to be confirmed by an appropriately designed ground investigation.

7.2 Foundations

Note the following assessment is provisional and will be subject to any requirements to treat and stabilise any shallow mine workings beneath the site following the results of investigations.

A preliminary assessment of the likely ground conditions within the development area suggests that for low rise housing, conventional shallow spread or trench fill foundations should generally be suitable, bearing within minimum medium strength glacial clay. The potential need for deeper foundations to localised plots should be anticipated until investigations have been completed.

Foundation depth in cohesive soils should be determined by reference to NHBC guidance (Chapter 4.2), with appropriate deepening near trees and hedges. This is particularly relevant considering the site is surrounded on several sides by trees.

Note that the precise nature and depth of foundations will be dependent on the detailed site geology, including:

- Bearing capacity and nature of the natural strata;
- Groundwater levels;

- Depth of made ground;
- Presence and proximity to slopes or services;
- Proximity to trees where potentially shrinkable soils are present;
- Other obstructions in the form of previous foundations or other inground features which may be present beneath the site.

7.3 Floor Slabs

Ground bearing floor slabs may be feasible for some properties subject to the thickness of the existing made ground and the potential for soil swelling associated with trees. In areas where made ground is greater than 600mm thick or in areas where soil swelling could occur, then suspended floor slabs will be required.

7.4 Mining

Based on a review of published information, it is concluded that there is a potential risk of the site being affected by coal mining. Ground investigation is required to confirm if any such workings could impact surface development.

The site is concluded to be at negligible risk from other non-coal mining activities, or natural cavities.

7.5 Slope Stability

Presently no significant slopes are known to be present on or adjacent to the site which will have a significant impact on development proposals.

7.6 Roads & Pavements

Based on the anticipated ground conditions comprising predominantly made ground overlying glacial clay, a preliminary design CBR of <2% should be anticipated for preliminary costing purposes. Appropriate in situ testing should be performed at formation to confirm pavement design.

7.7 Hazardous Gases

There is considered to be a low to moderate risk from ground gas arising from made ground, natural soils or mine gas. The site lies within an area in which radon protection measures are not required.

7.8 Infiltration Drainage System Feasibility

The made ground deposits are unsuitable as an infiltration drainage medium. The underlying superficial deposits beneath the site are largely cohesive. Previous infiltration testing within the site confirmed negligible infiltration results. Therefore, at this stage infiltration drainage is considered inappropriate for new development at this site.

7.9 Invasive Species

The presence or not of potential invasive species should be confirmed by a qualified ecologist and appropriate treatment/ control or eradication strategies put in place prior to the commencement of development.

7.10 Ground Investigation Recommendations

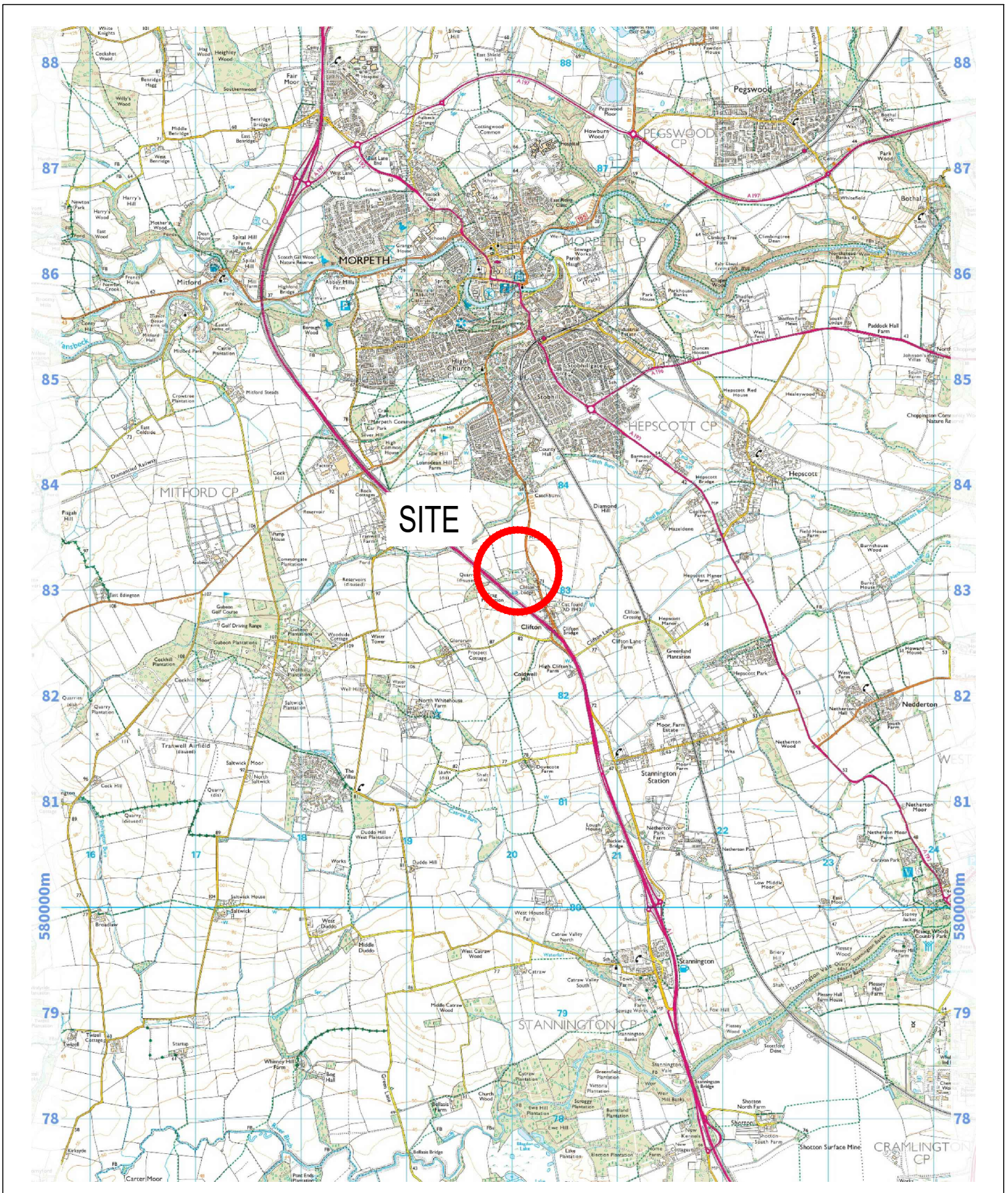
In order to establish the environmental risk based on the findings of the Conceptual Site Model, the following works are recommended:

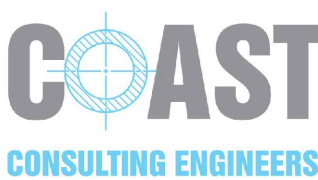
- Intrusive ground investigation in the form of trial pits and small diameter boreholes to assess the shallow ground conditions and obtain samples for laboratory analysis;
- Investigations to locate the two mine adit entries to assist with development planning;
- Installation of gas monitoring standpipes and monitoring for a minimum initial 6 visits over a 3 month period to be followed by additional visits if required;
- Rotary drilling to confirm the depth and cover above coal seams beneath the site.
- Laboratory chemical testing of soils to confirm or otherwise the findings of the Conceptual Site Model and enable a generic quantitative risk assessment to be carried out;
- Factual and interpretative reporting, providing recommendations for the existing site and any future development.

7.11 Regulatory Approvals

This document should be submitted to the Planning Department of the Local Authority for comment and approval prior to commencement of development.

Appendix A – Figures



Client		Northumbria Homes Ltd		
Project		Clifton, Morpeth		
Drawing Title		Site Location Plan		
Job No	Drawing No	Issue	Scale at A4	7 Silvertown Court, Northumberland Business Park, NE23 7RY rh@coastconsult.co.uk pl@coastconsult.co.uk 0191 5977879
20004	01	P1	1:50,000	© Coast Consulting Engineers Ltd.

Do not scale

KEY

- Boundary
- Acoustic Barrier
- NWL 13m EASEMENT
- P.O.S
- ADOPTED RD SURFACE
- VISITOR PARKING SURFACE
- EXISTING TREES
- PROPOSED TREES
- REMOVED TREES

NOTE:

PARKING REQUIREMENTS ARE AS PER NCC STANDARDS AND THE ADOPTED RD NETWORK IS A MINIMUM OF 4.8M WIDE THROUGHOUT.

AUTOTRACK, VISIBILITY SPLAY, GHOST ISLAND AND PEDESTRIAN LINK HAVE BEEN ADDED FOR CLARITY

- Notes
1. Do not scale from this drawing. If in doubt ask.
 2. Contractor to check all dimensions on site prior to the commencement of works and report any discrepancies to the Architect immediately.
 3. To be read in conjunction with all other drawings, bills and specification documents.
 4. Cross refer to structural engineers design for all structural information.



Pedestrian link & Ghost Island formed in accordance with Standards for Highways Specifications

2m wide tarmac Footpath created to link the site to the bus stop to the South

The Drift House

Rev	Date	Description	Rev by	Checked by
B	28/01/15	Layout updated to show footpath link from the site to southern bus stop	ND	
A	11/11/14	Layout revised following comments received from NCC Consultees	ND	

STAGE D - PLANNING



95 South Woodside Road, Glasgow G20 6NT
 Tel: 0141 342 5400 Fax: 0141 342 5401 Email: info@idpartnership-scotland.com
 www: idpartnership.com

Proposed residential development, Clifton Caravan Park, Clifton, Morpeth for Broadie Developments

Drawing Title		Drawn by		Checked by	
Site Plan as proposed		ND		ND	
Project Architect	Scale: A1	1:500@A1	Rev Number	1185	Drawing Number
Date	05.05.14			L001	B

Appendix B – Historical OS Maps

Site Details:

Clifton, Morpeth

Client Ref: EMS_667712_879972
Report Ref: EMS-667712_879972_2500
Grid Ref: 420022, 583182

Map Name: County Series

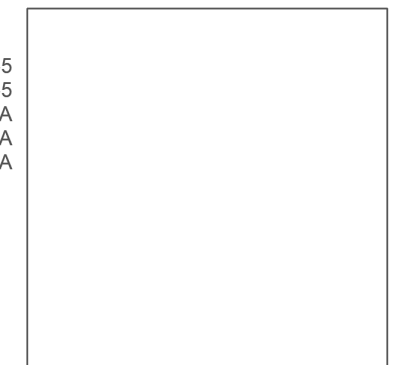
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Printed at: 1:2,500



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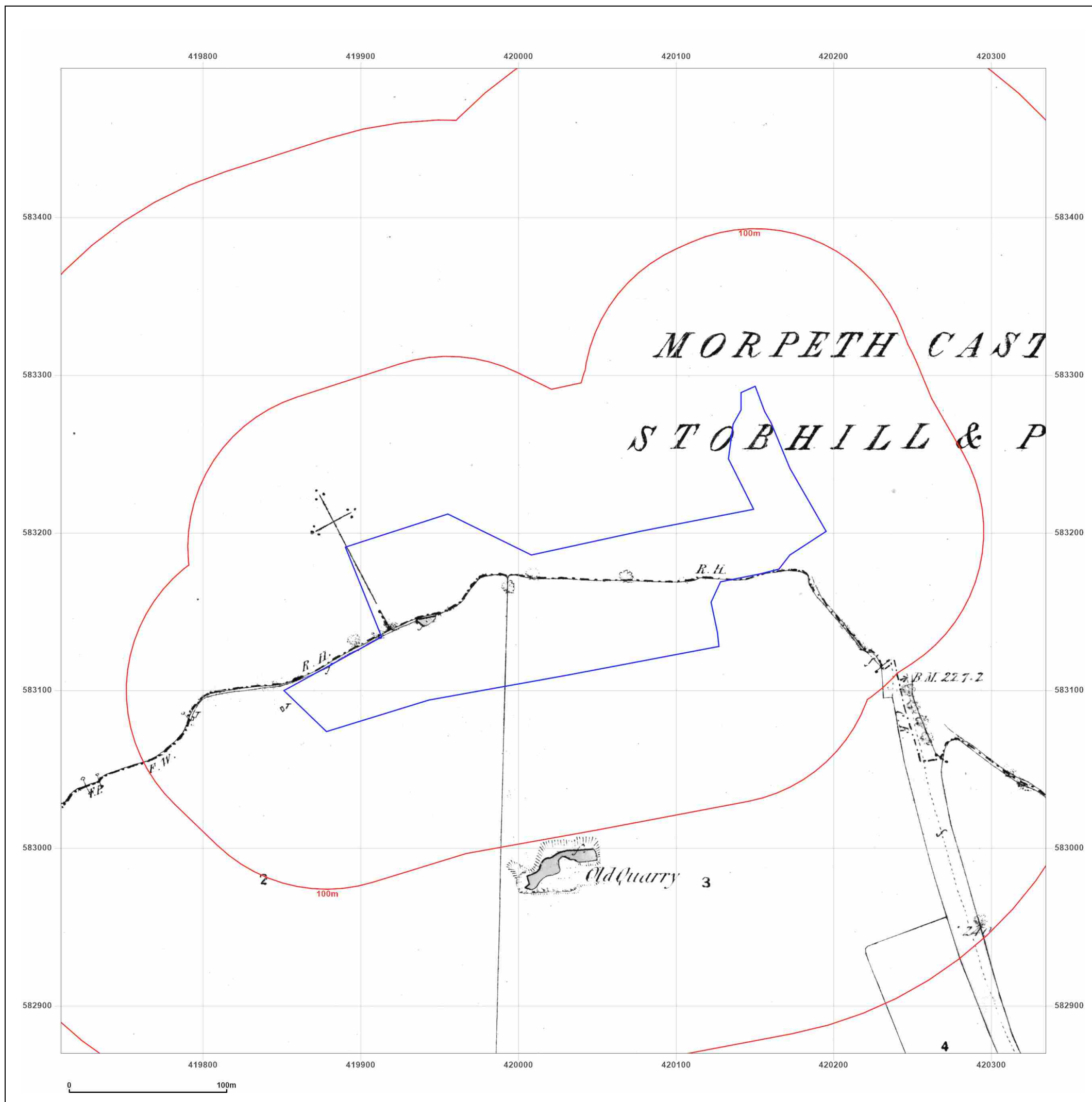


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Site Details:

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Client Ref: EMS_667712_879972
Report Ref: EMS-667712_879972_2500
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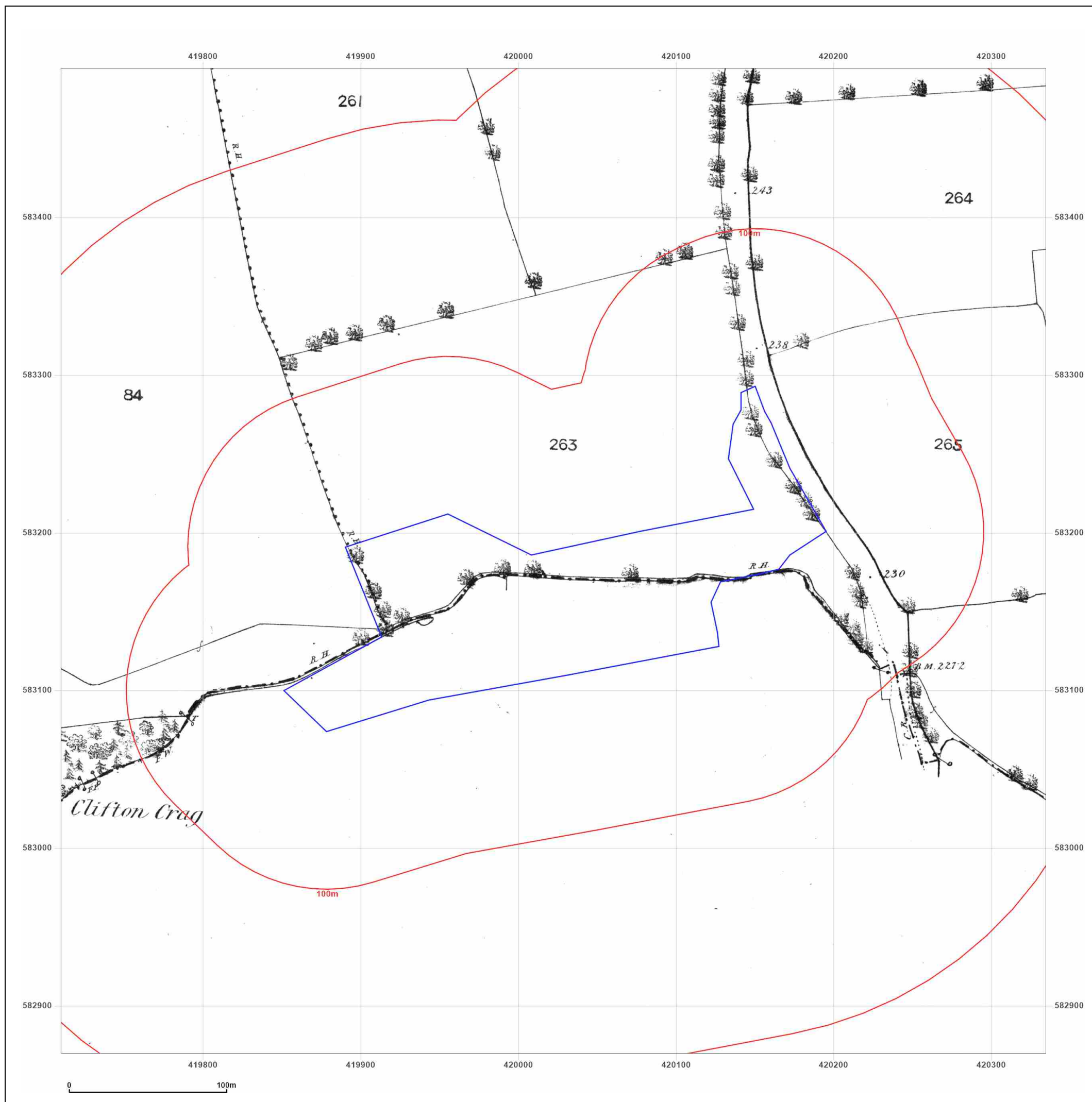


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Site Details:

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Report Ref: EMS-667712_879972_2500
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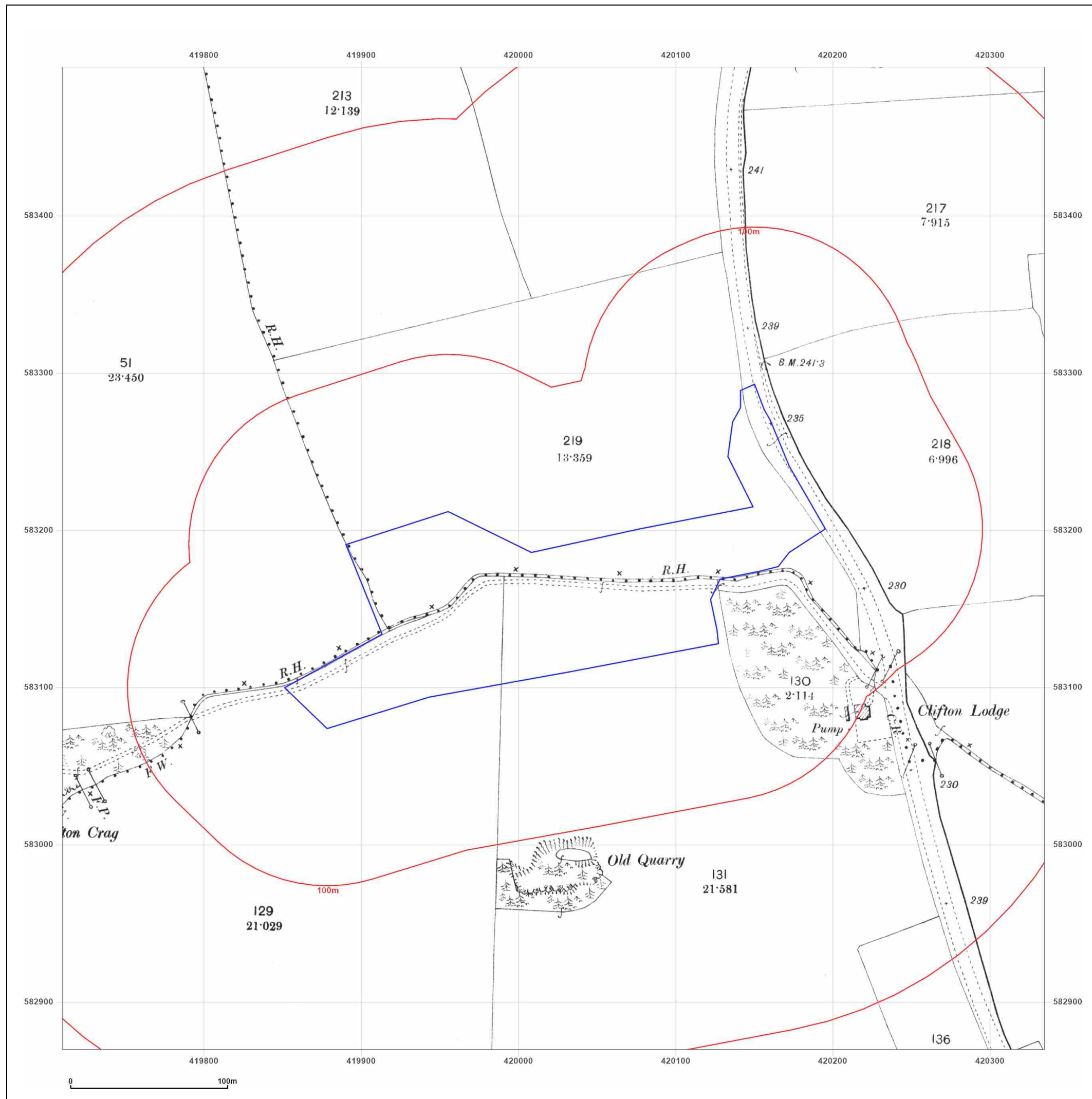
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Site Details:

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Report Ref: EMS-667712_879972_2500
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Map Name: County Series

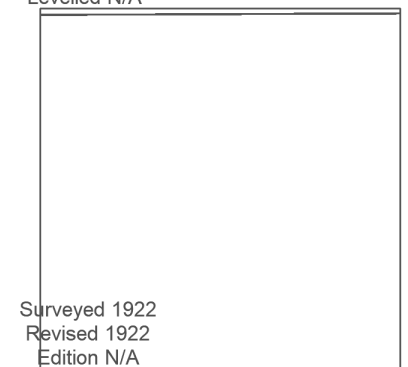
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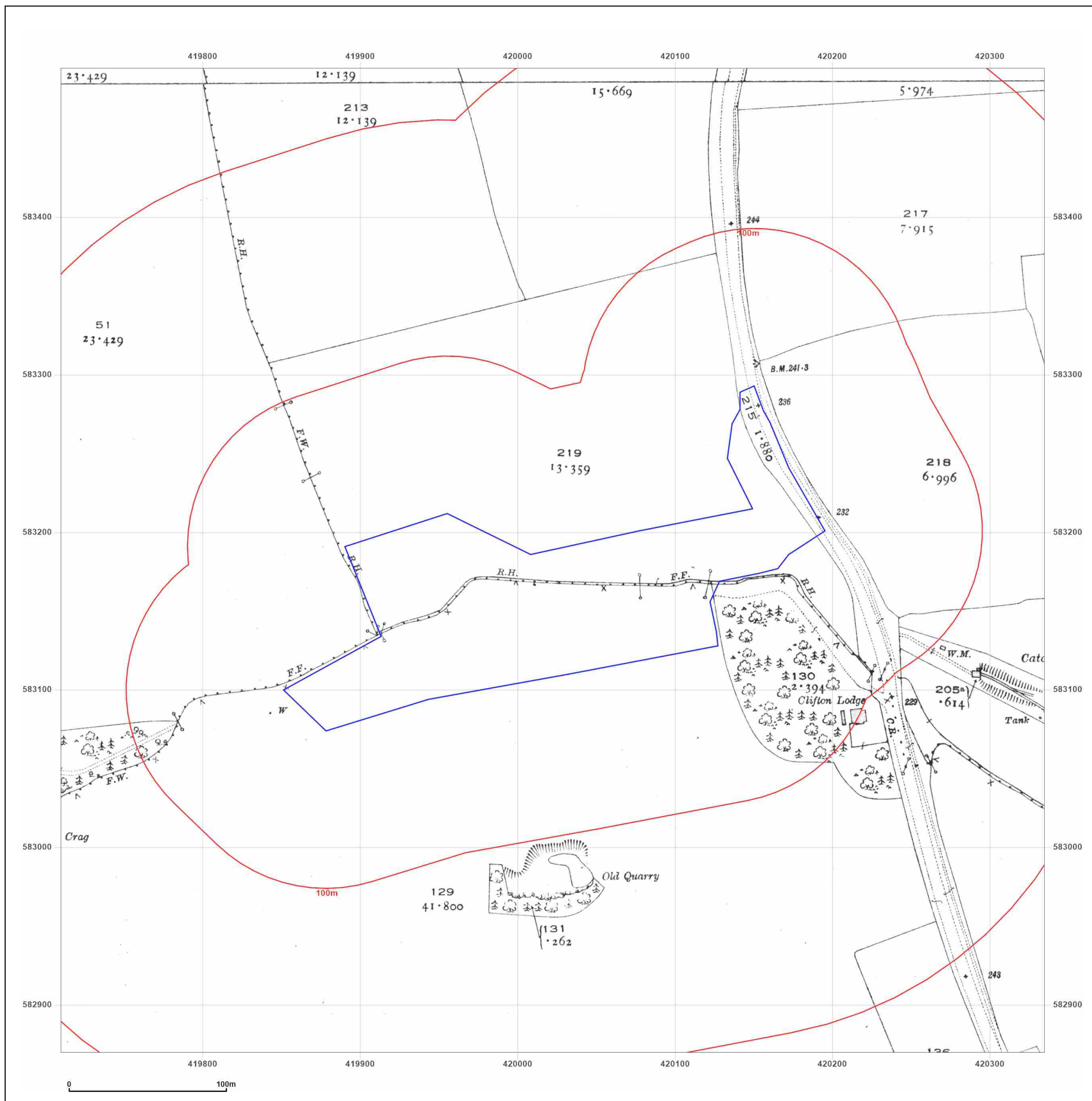


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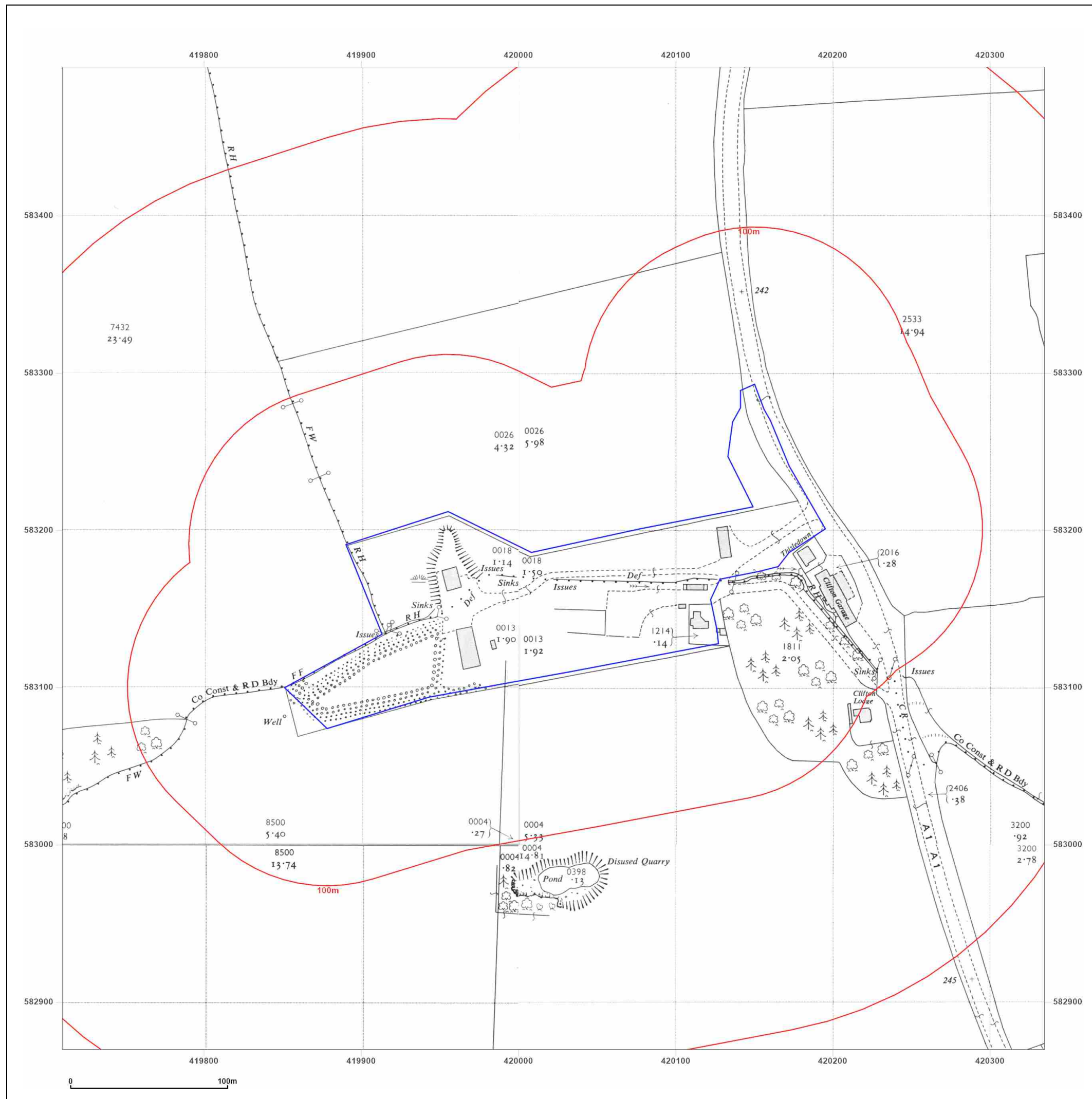


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Report Ref: EMS-667712_879972_2500
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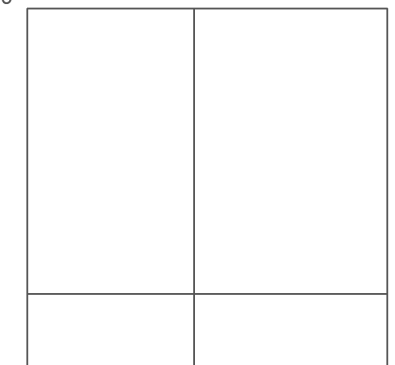
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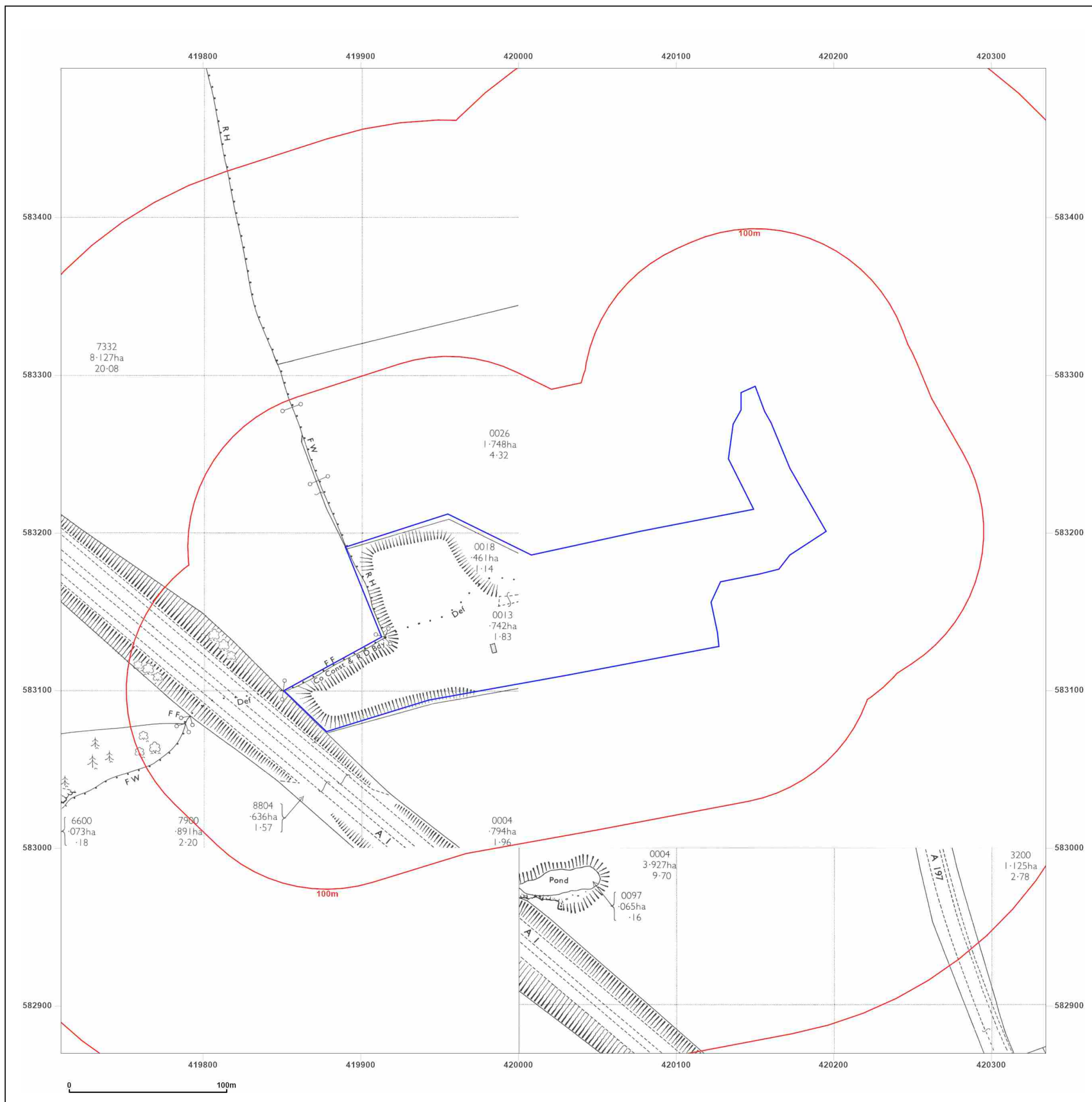


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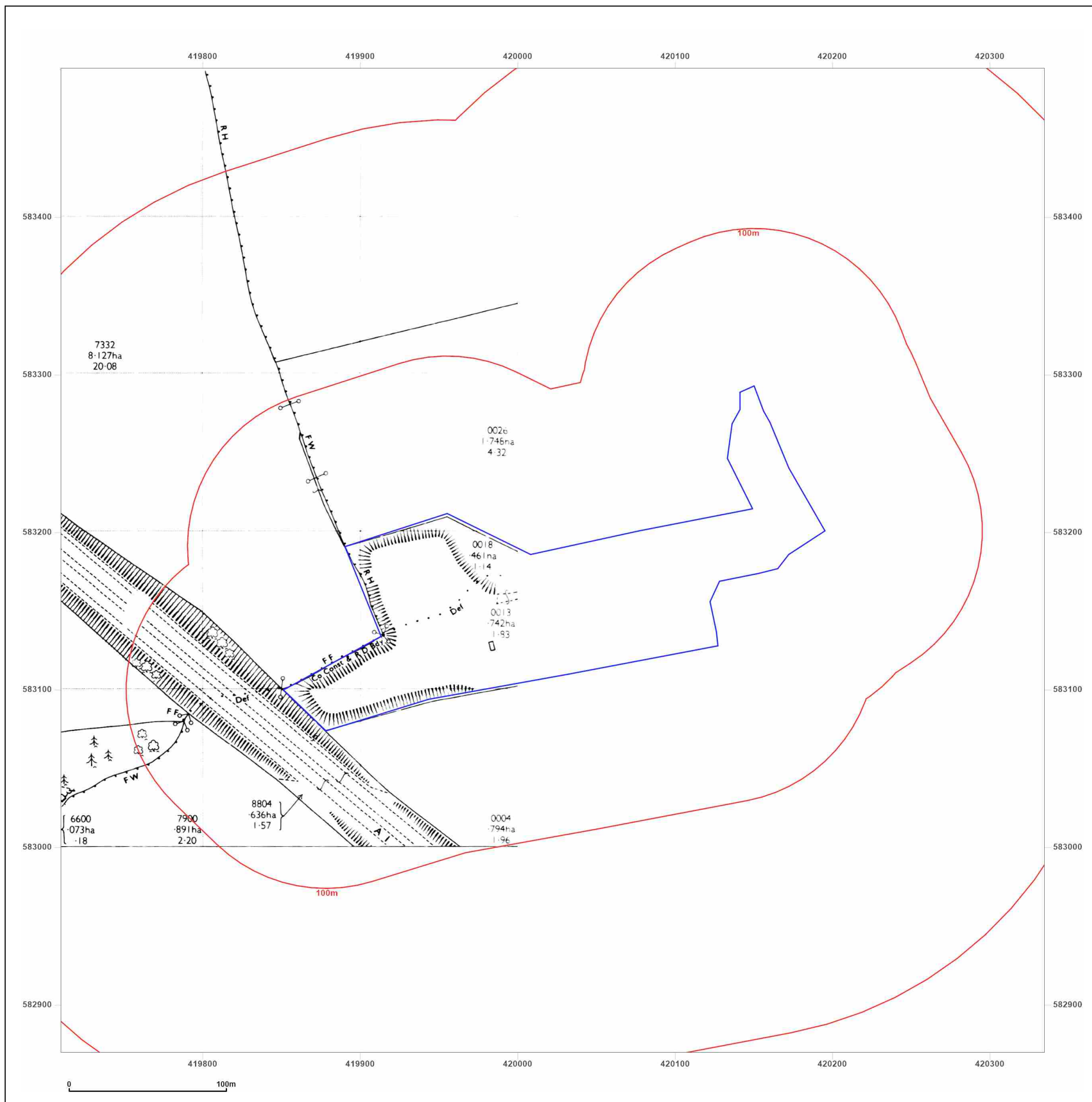
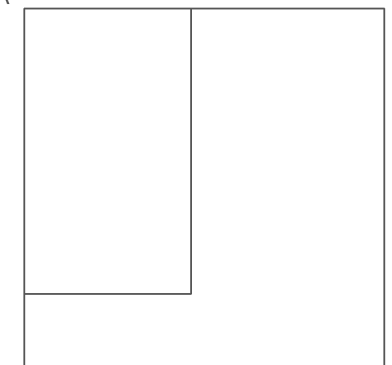
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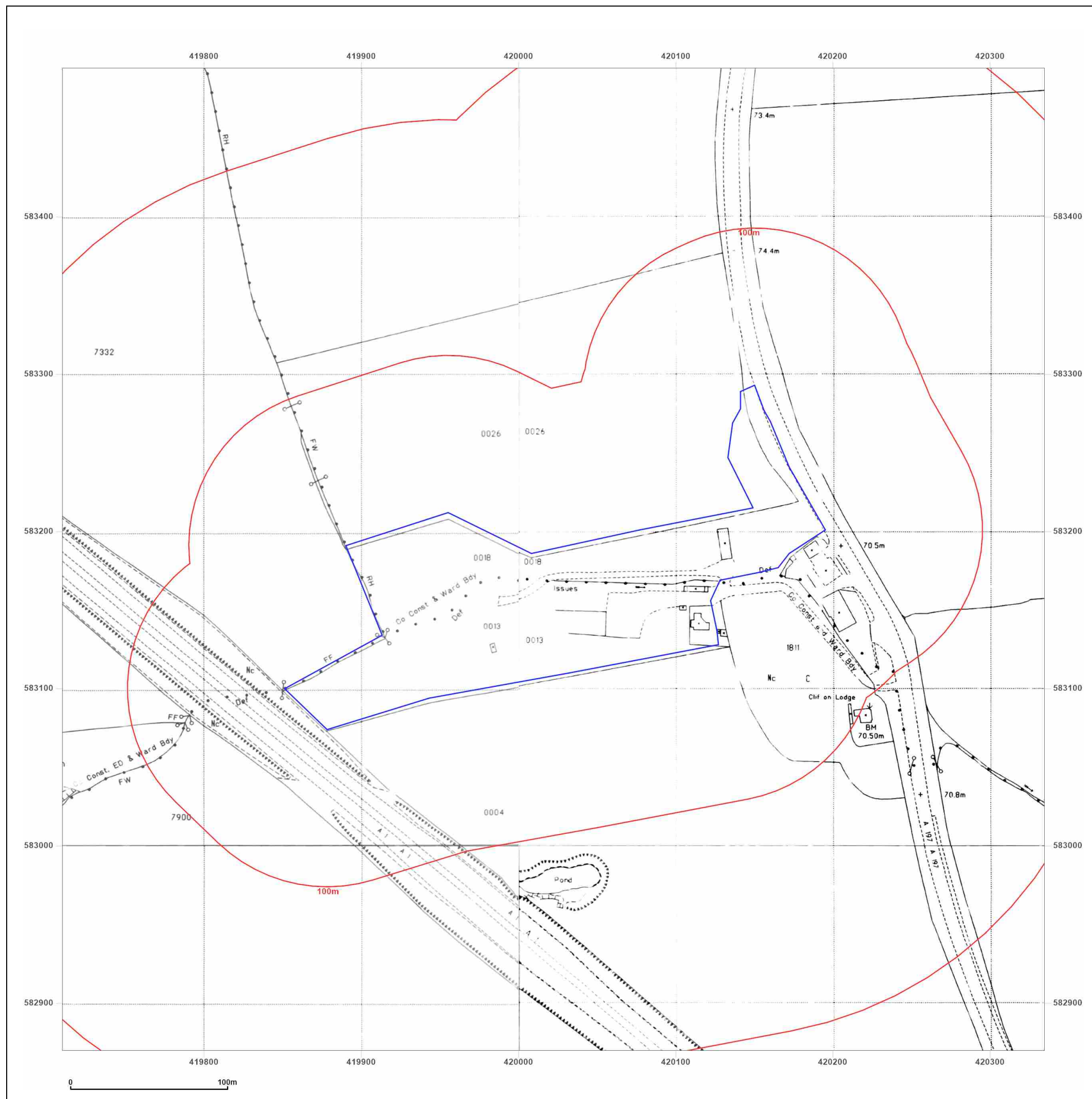


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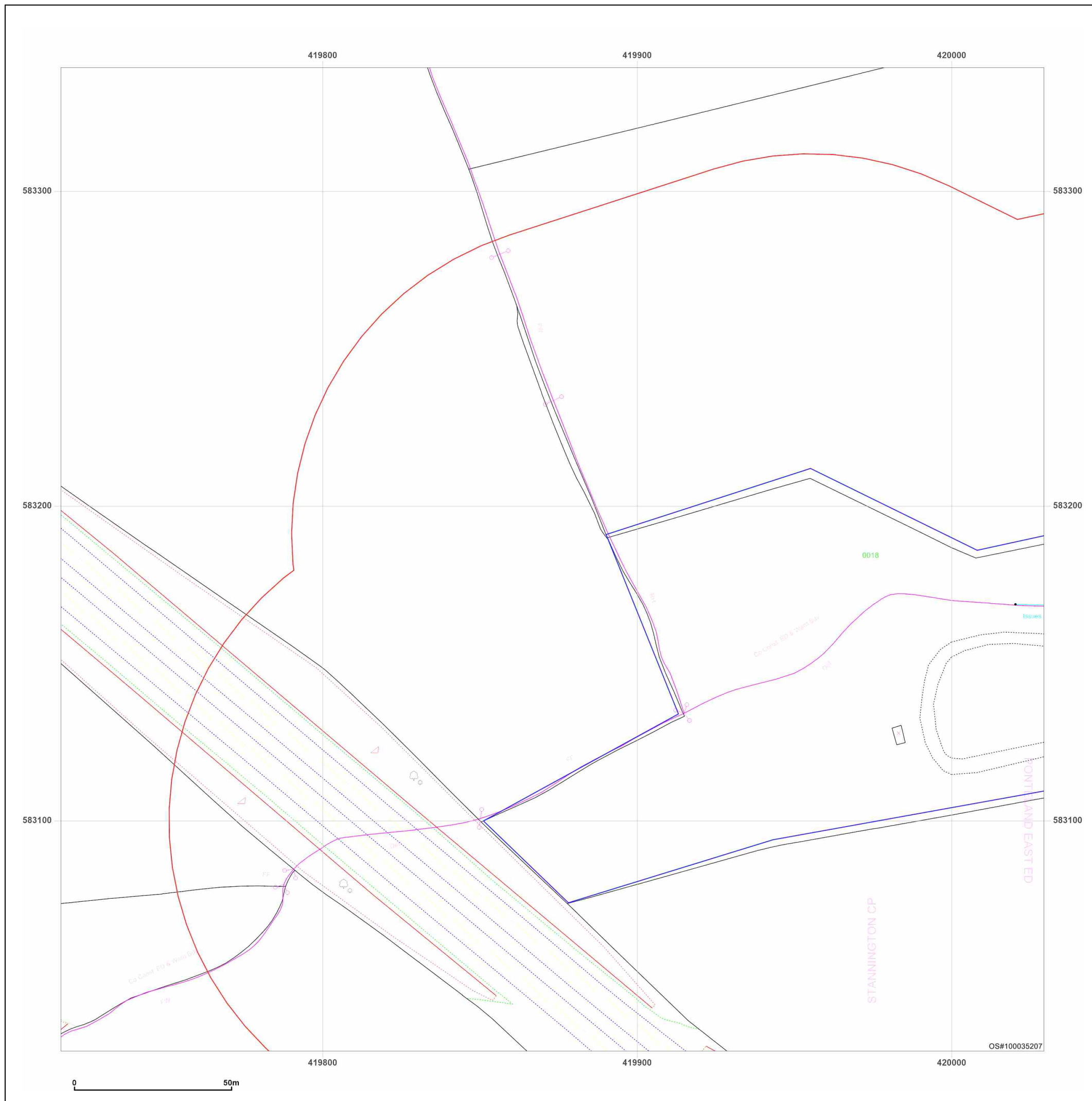
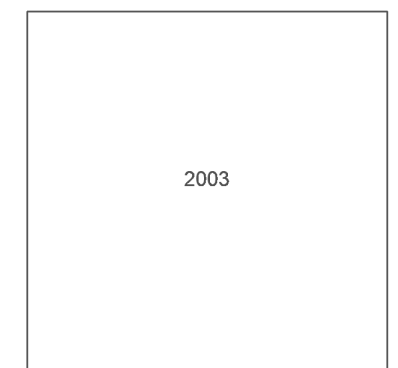
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Map date: 2003

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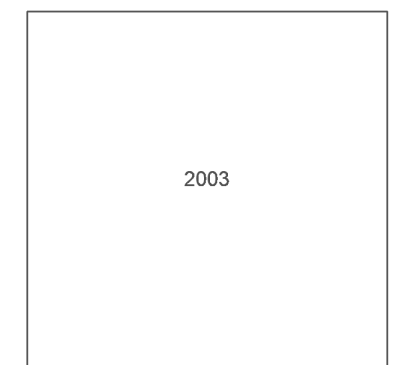
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Map Name: County Series

Map date: 1859

Scale: 1:10,560

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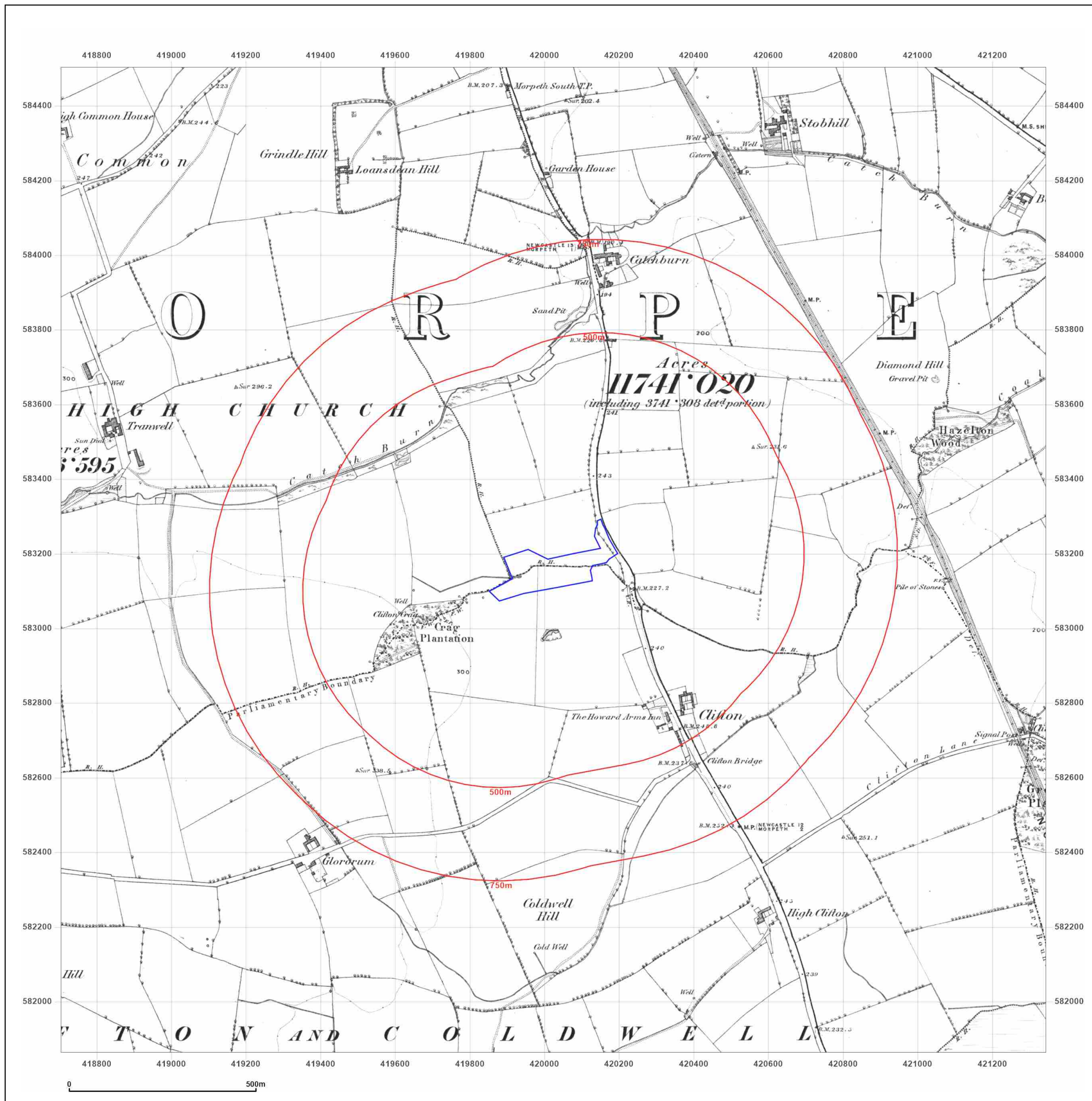


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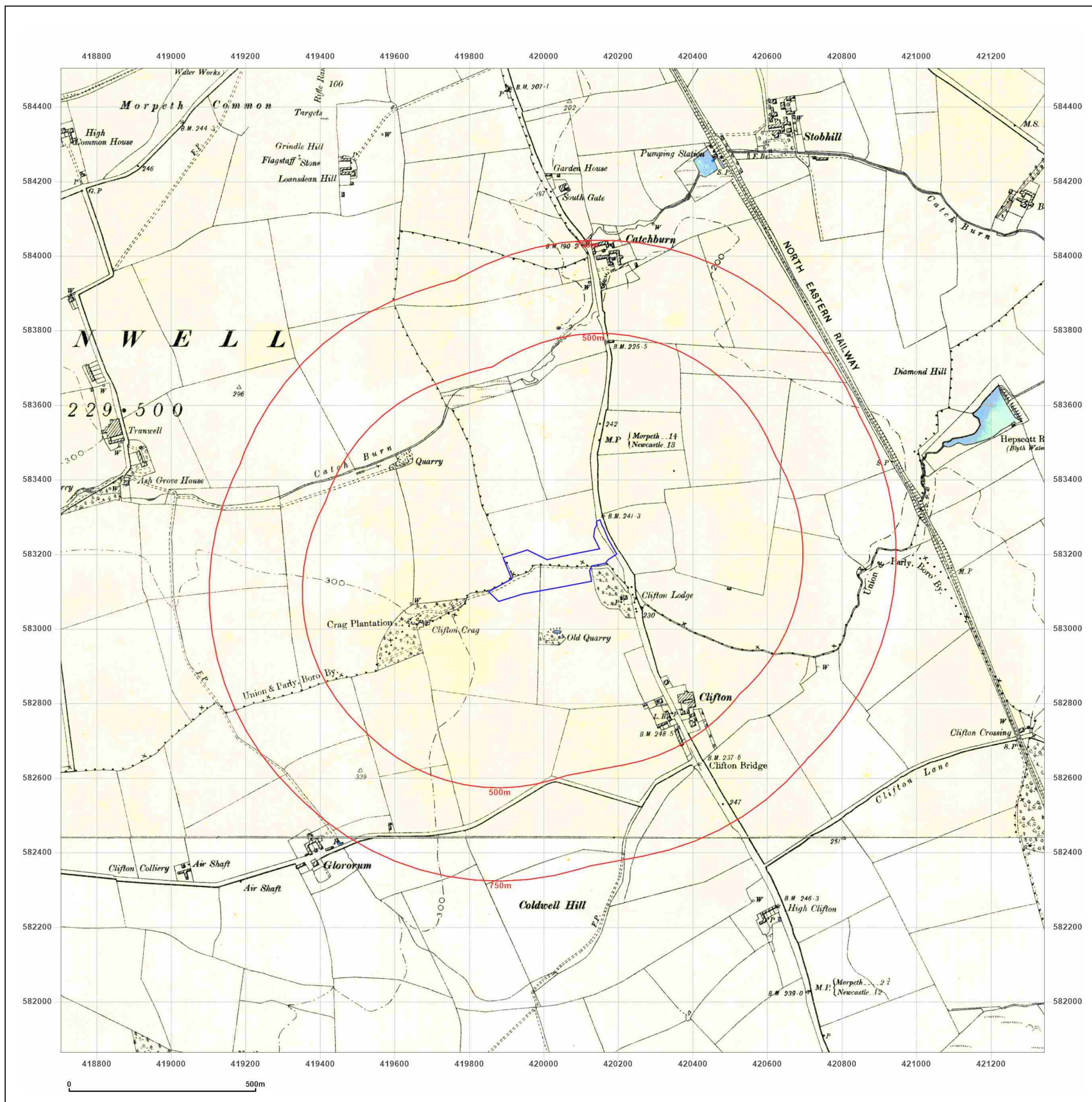


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Report Ref: EMS-667712_879972
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Map Name: County Series

Map date: 1924

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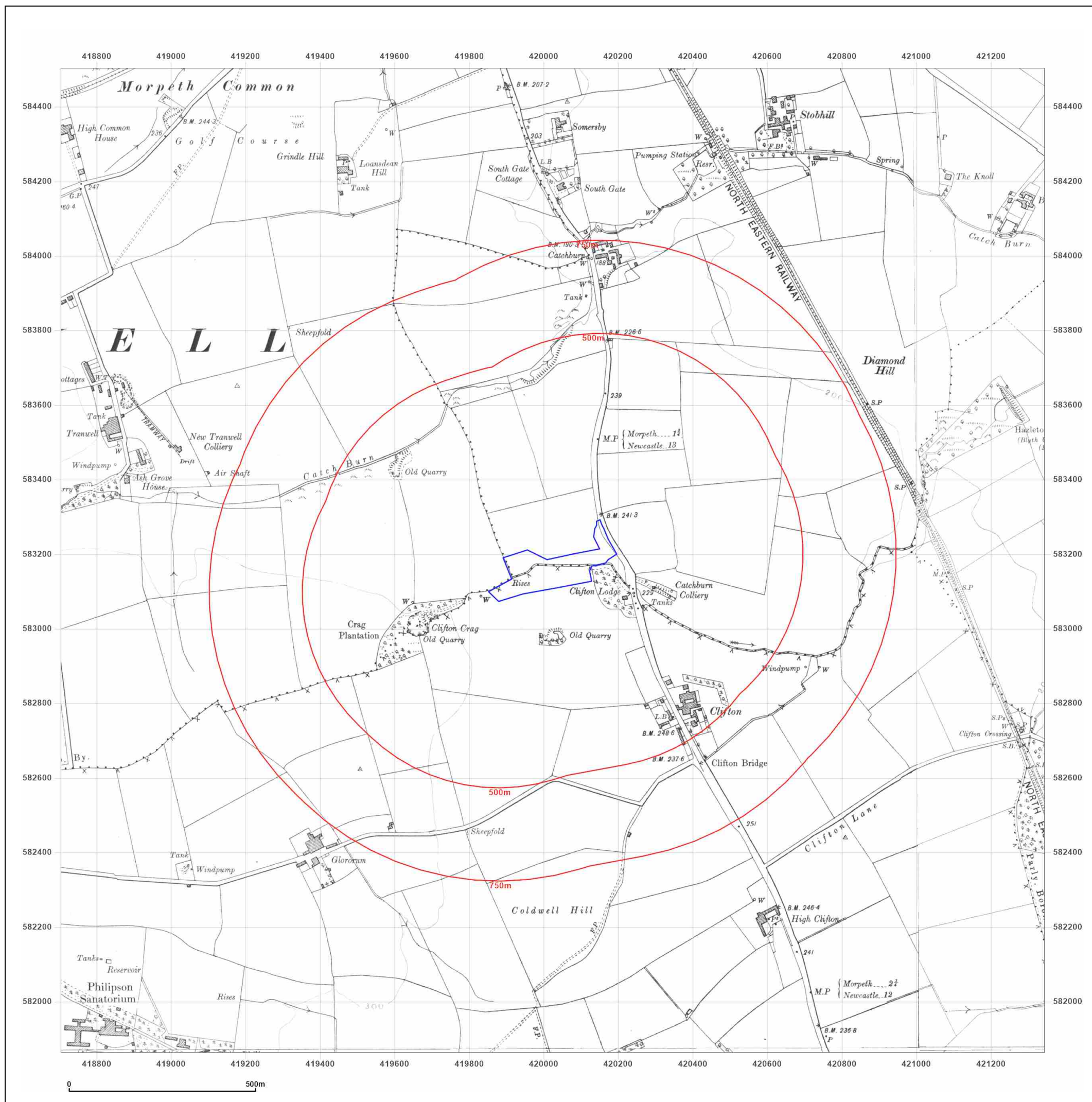


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Client Ref: EMS_667712_879972
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Grid Ref: 420023, 583183

Map Name: County Series

Map date: 1924

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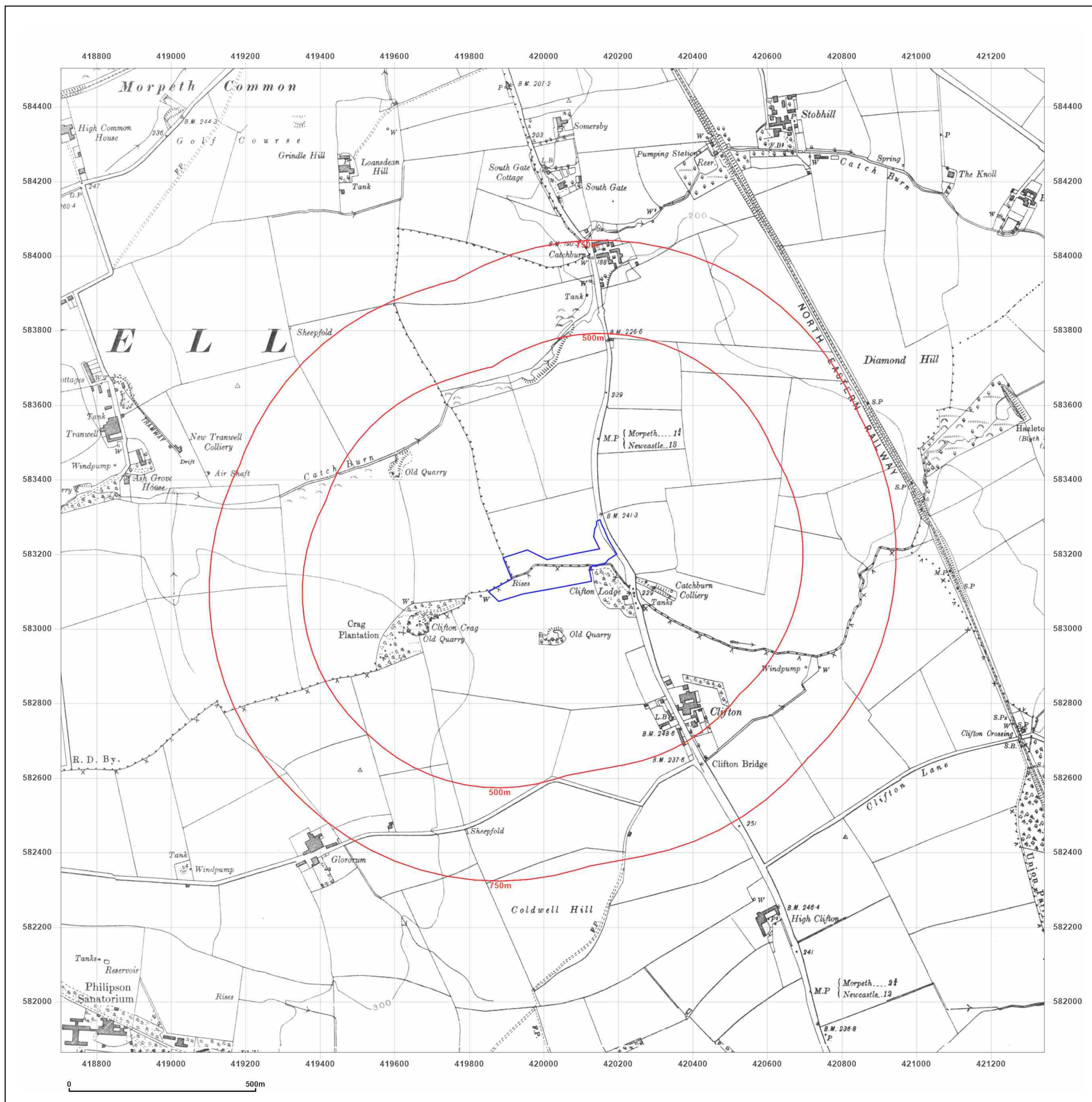


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Site Details:

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Grid Ref: 420023, 583183

Map Name: County Series

Map date: 1938

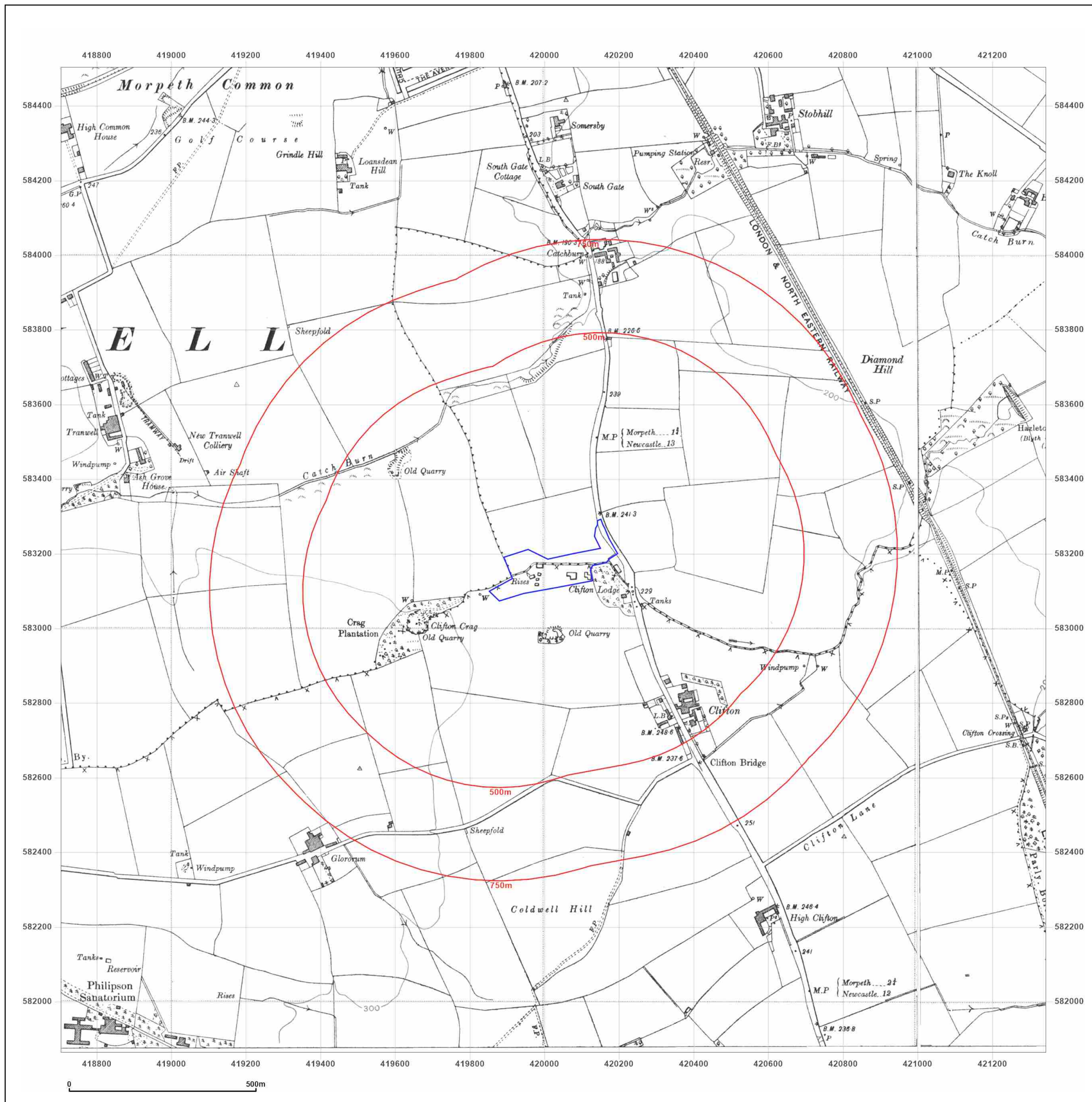
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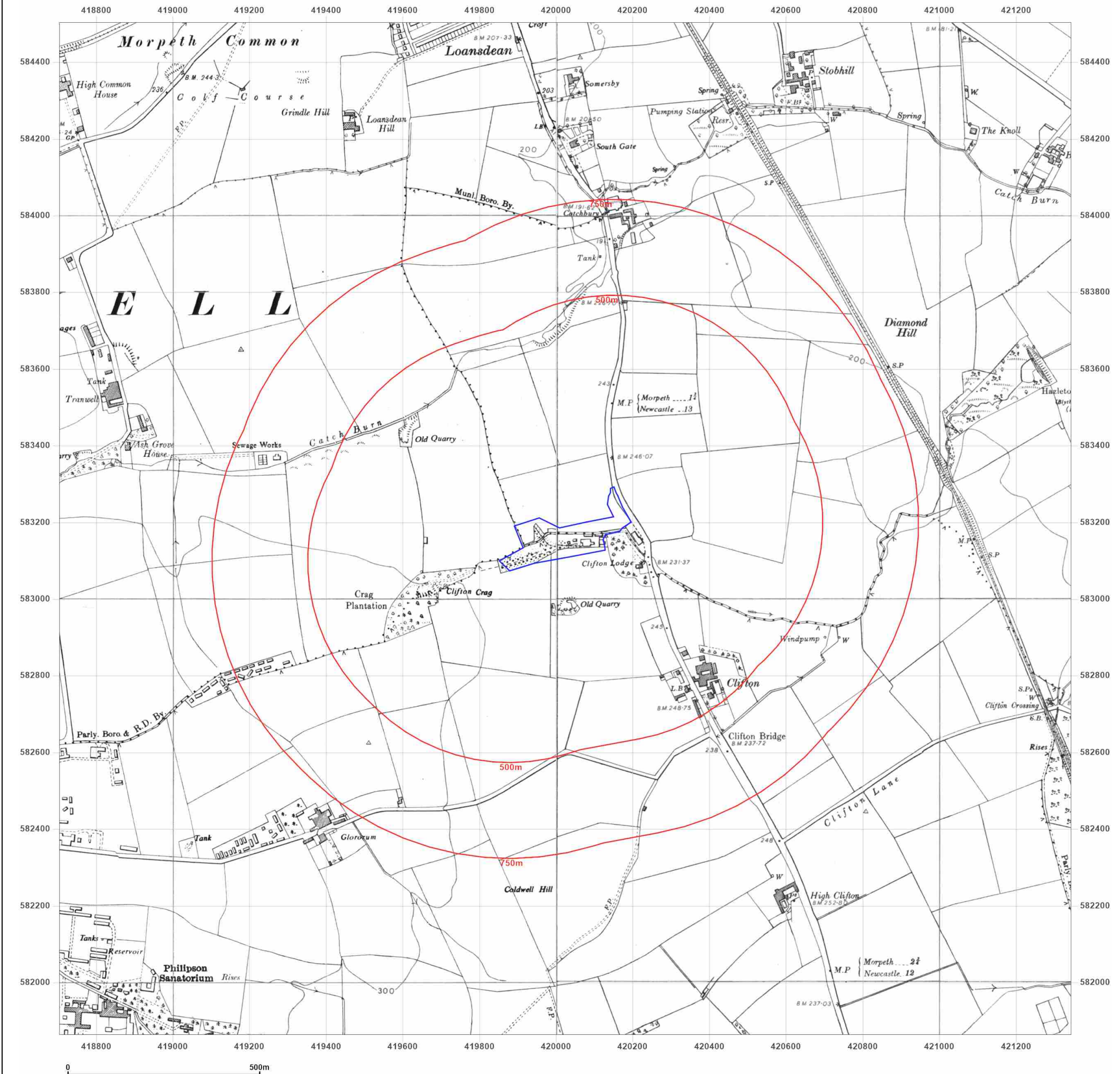
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Site Details:

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Client Ref: EMS_667712_879972
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 Grid Ref: 420023, 583183

Map Name: Provisional

Map date: 1948

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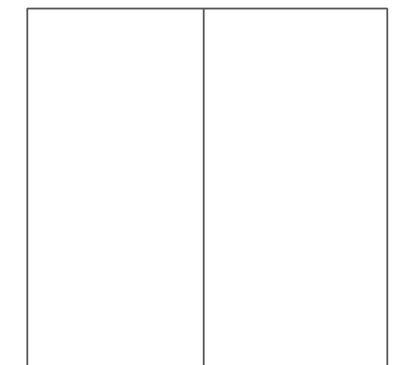
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Map Name: Provisional

Map date: 1966

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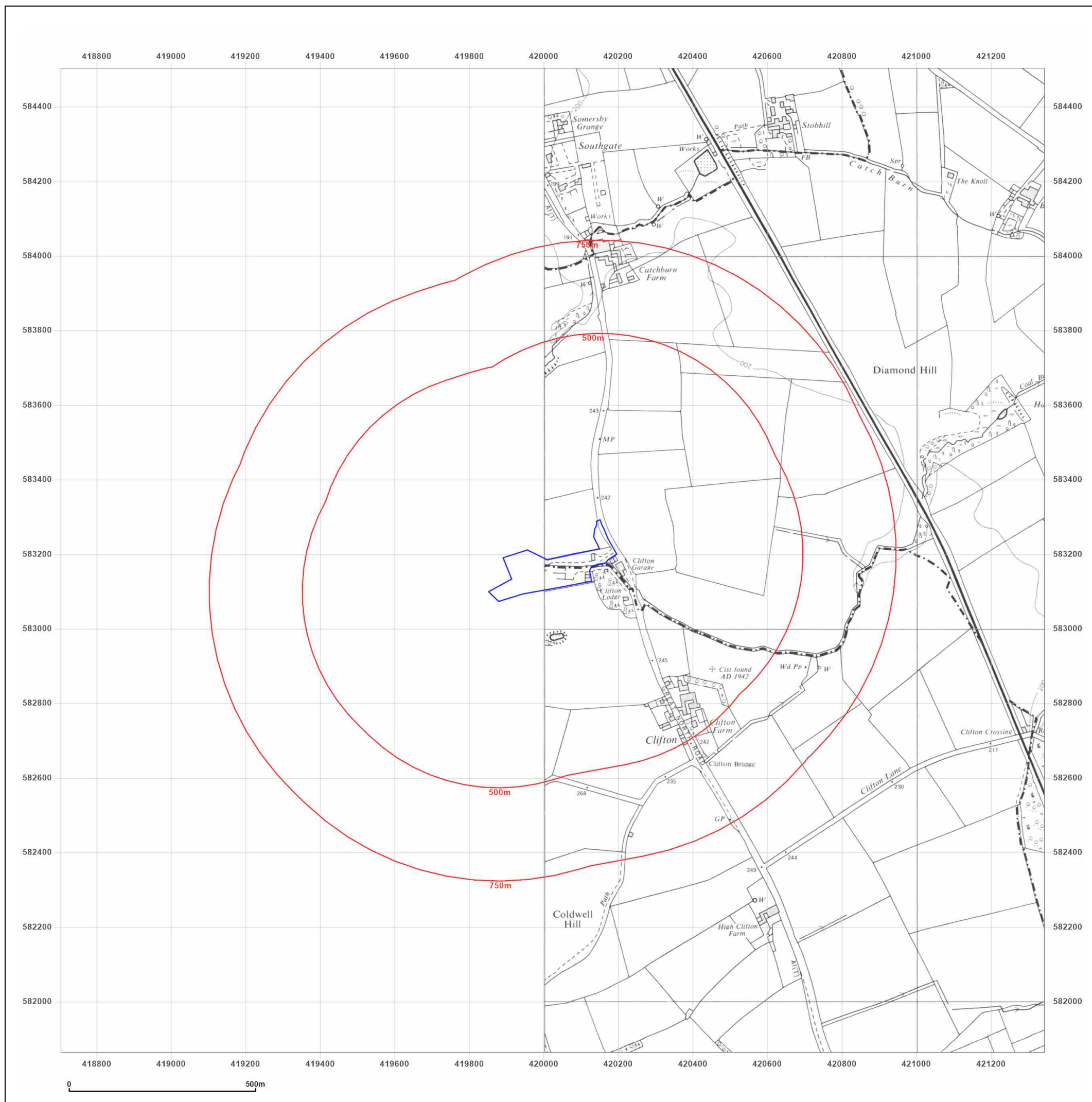


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Site Details:

Clifton, Morpeth

Client Ref: EMS_667712_879972
Report Ref: EMS-667712_879972
Grid Ref: 420023, 583183

Map Name: Provisional

Map date: 1972

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
 Revised 1972
 Edition N/A
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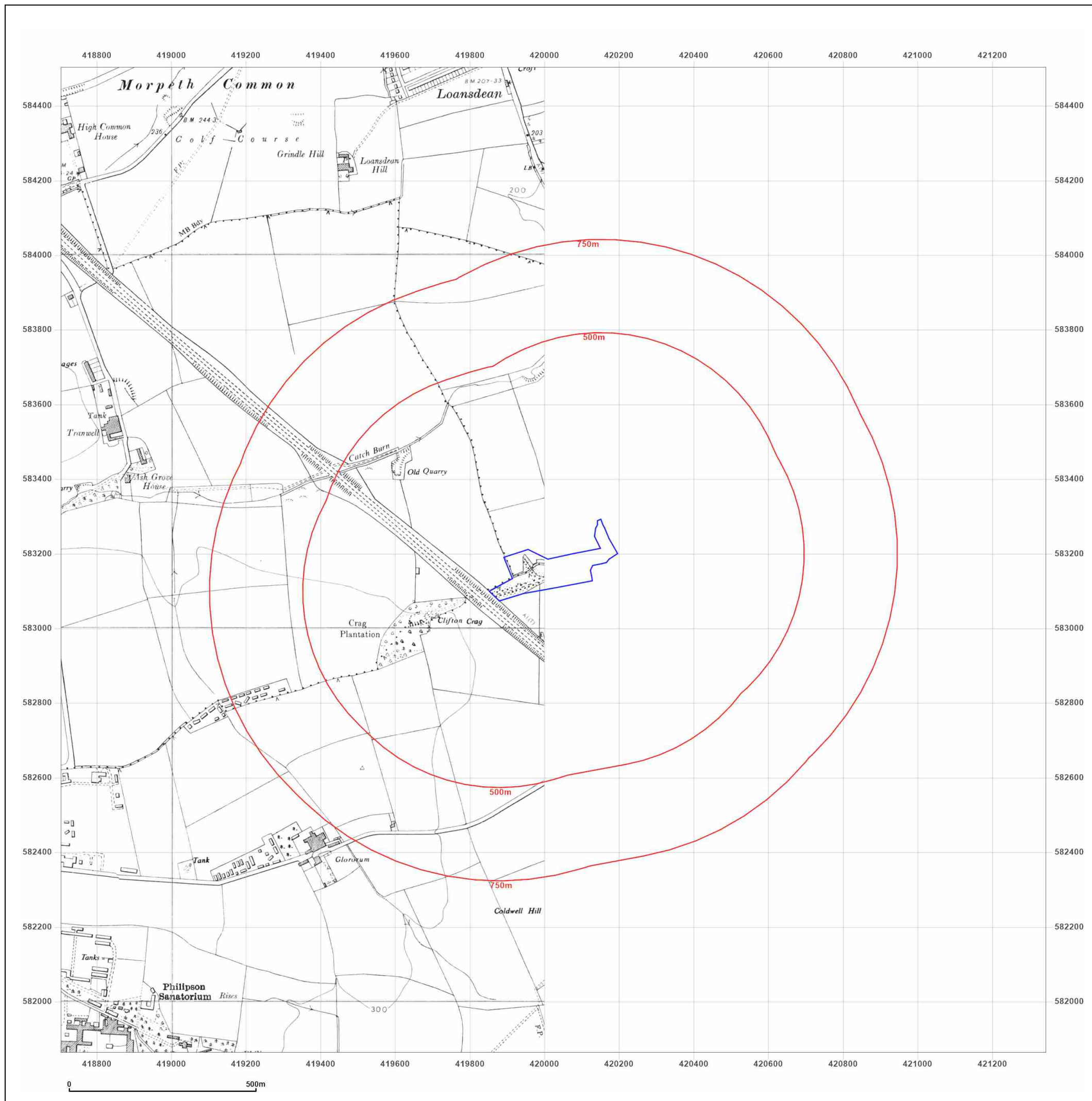


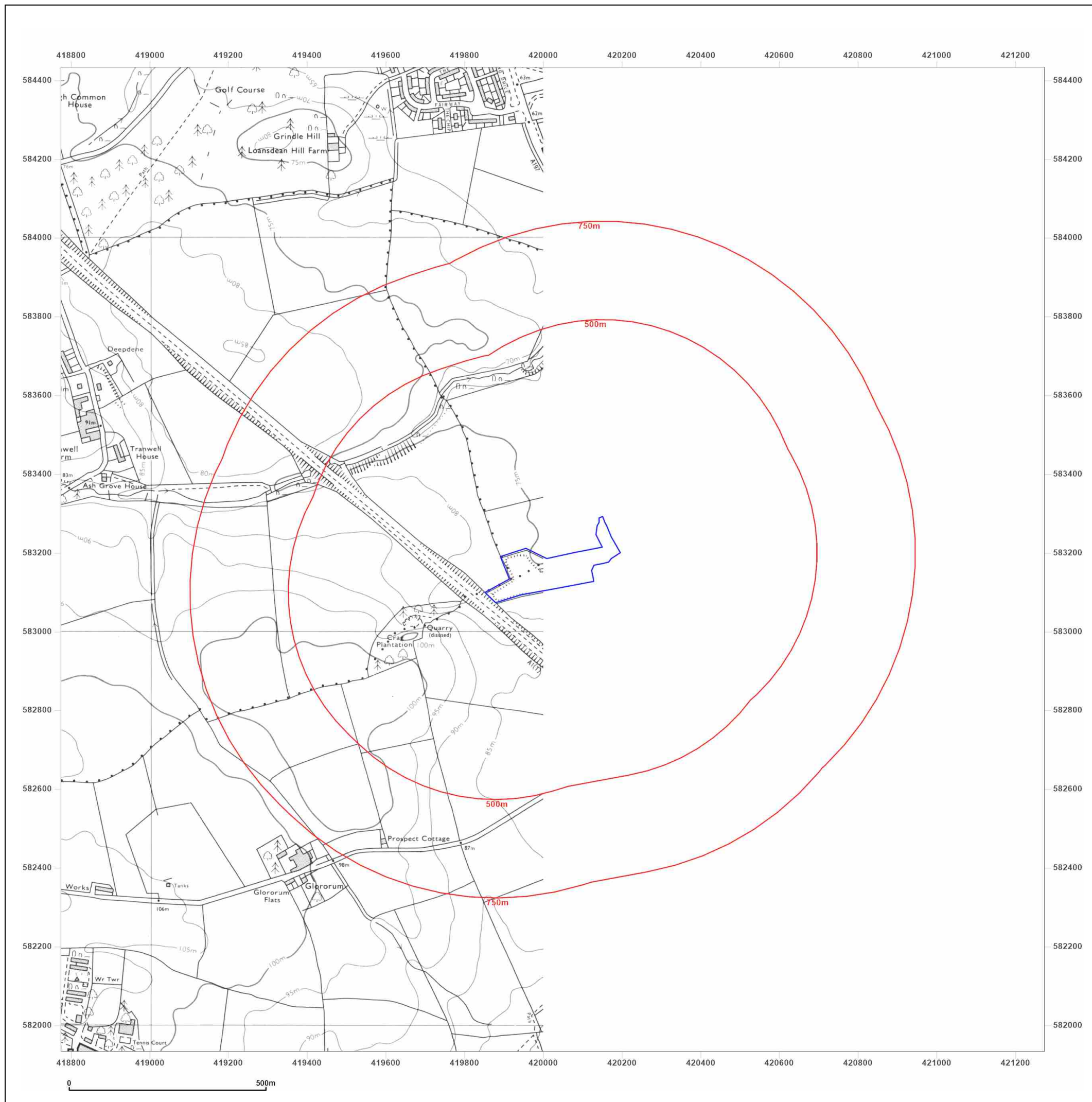
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Client Ref: EMS_667712_879972
Report Ref: EMS-667712_879972
Grid Ref: 420023, 583183

Map Name: National Grid

Map date: 1975

Scale: 1:10,000

Printed at: 1:10,000



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 Edition N/A
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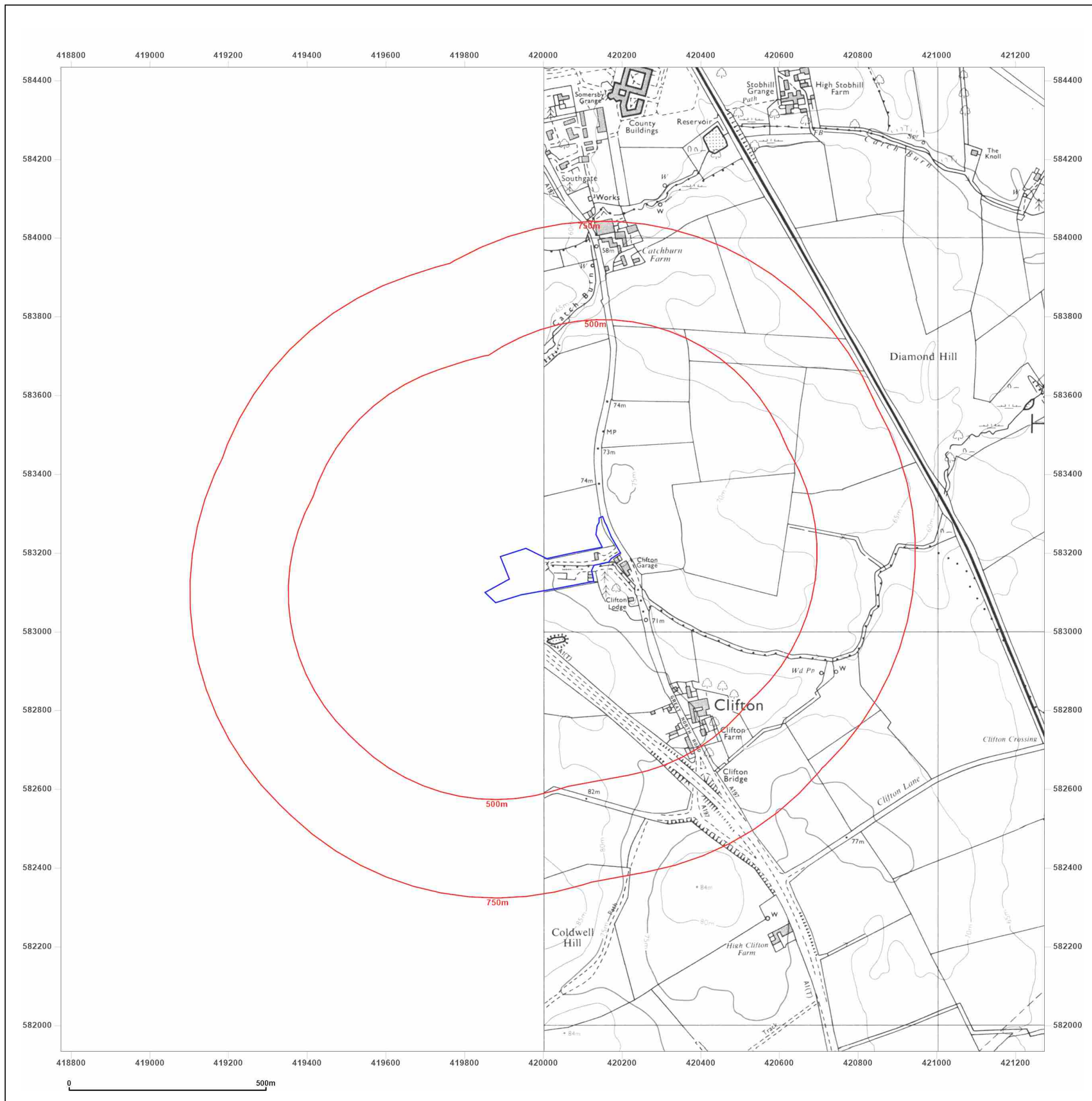


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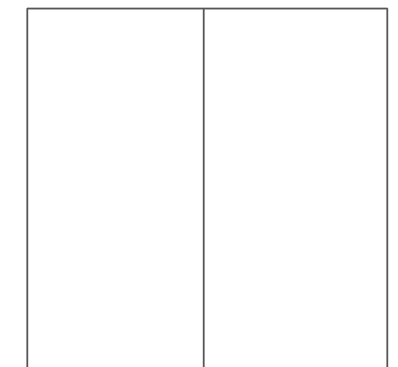
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Report Ref: EMS-667712_879972
Grid Ref: 420023, 583183

Map Name: National Grid

Map date: 1982

Scale: 1:10,000

Printed at: 1:10,000



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Client Ref: EMS_667712_879972
Report Ref: EMS-667712_879972
Grid Ref: 420023, 583183

Map Name: National Grid

Map date: 1992

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1973
 Revised 1992
 Edition N/A
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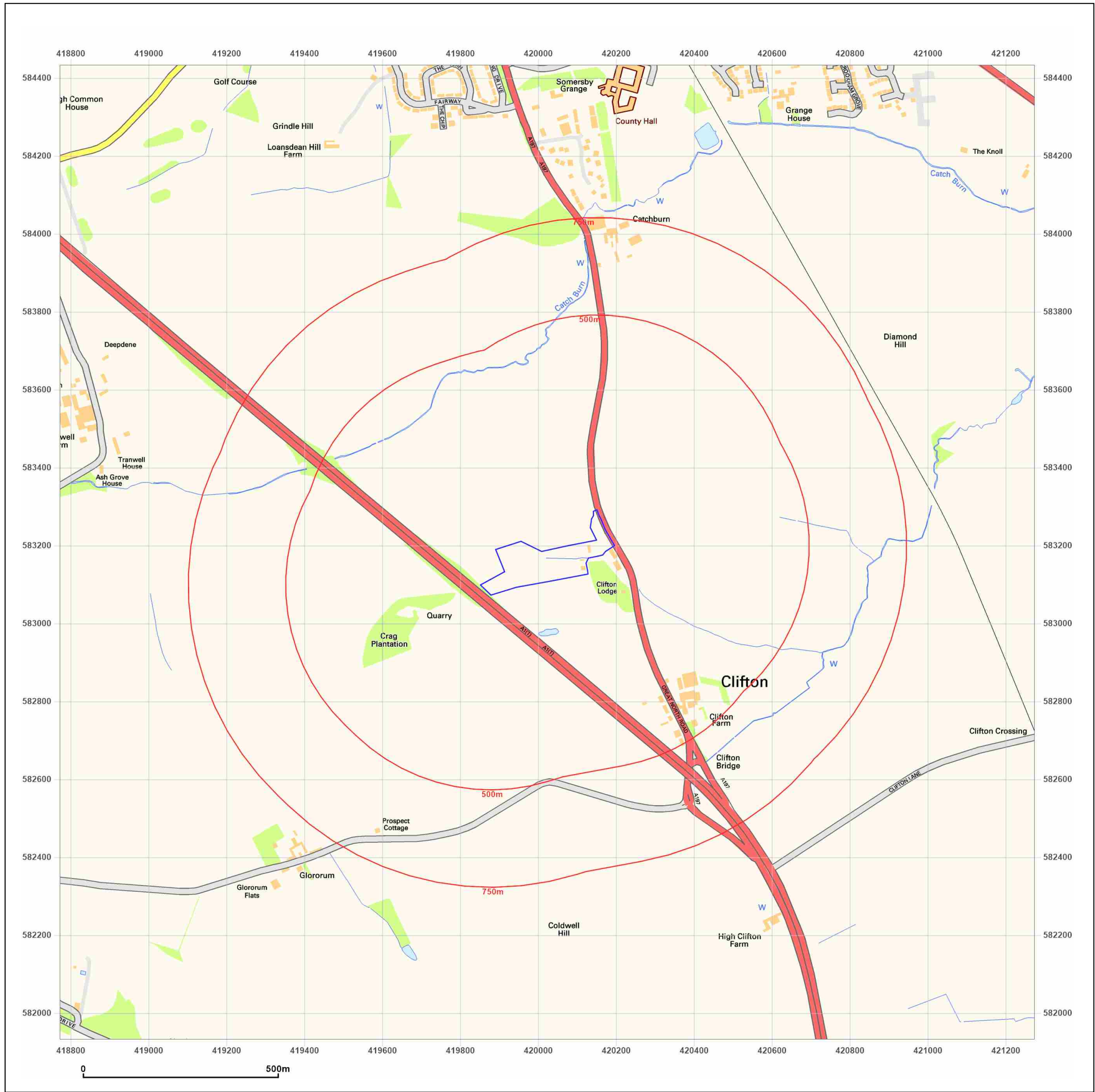


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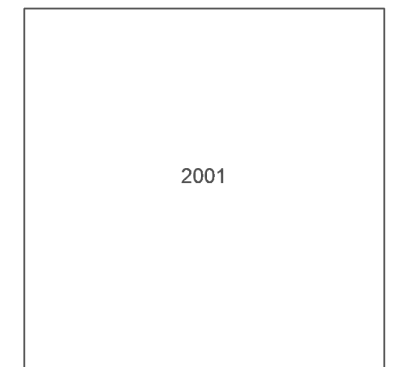
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Report Ref: EMS-667712_879972
Grid Ref: 420023, 583183

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



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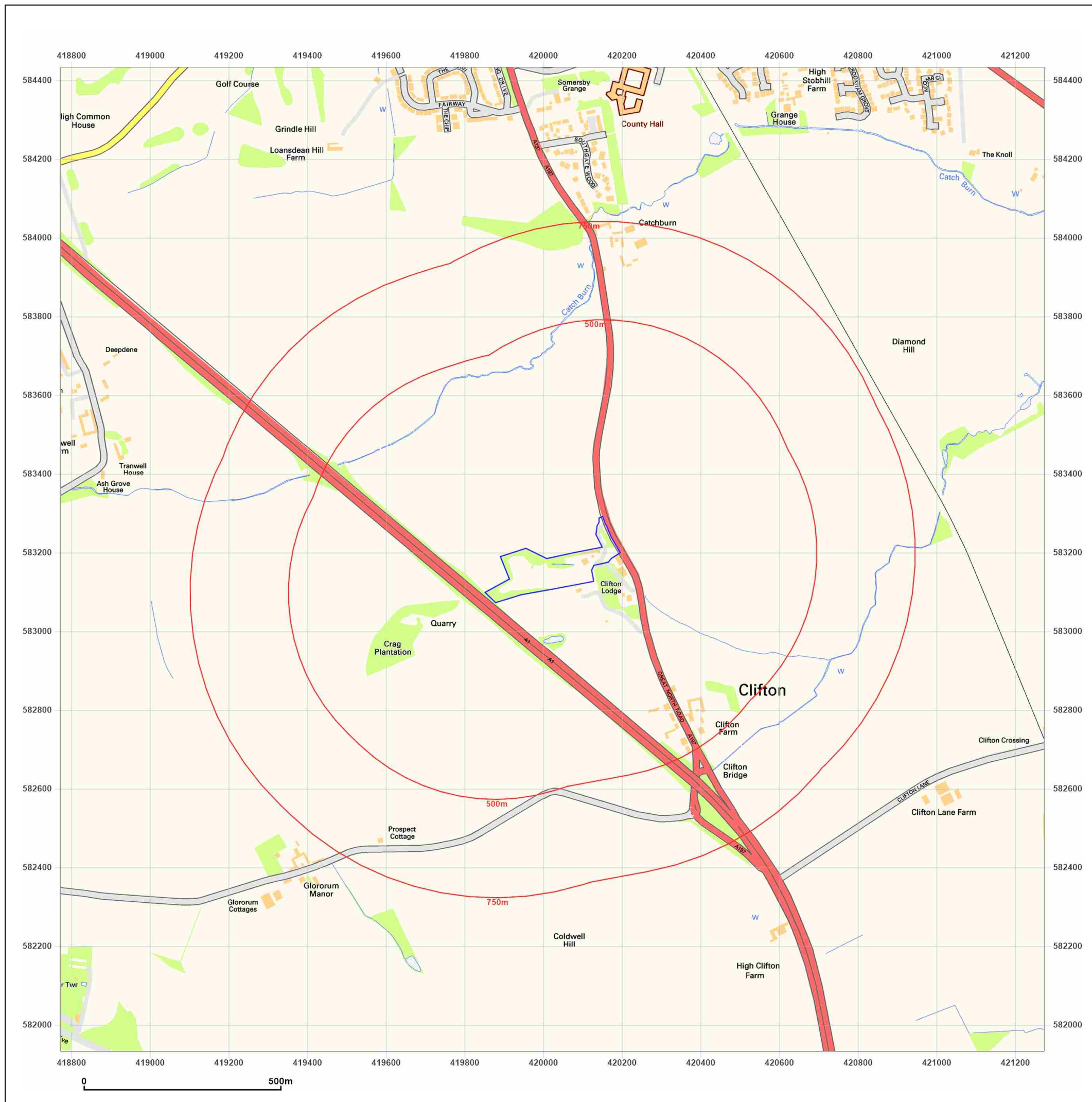


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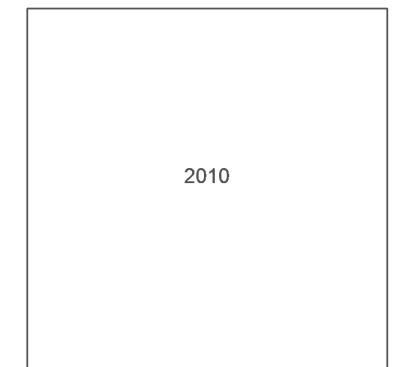
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Report Ref: EMS-667712_879972
Grid Ref: 420023, 583183

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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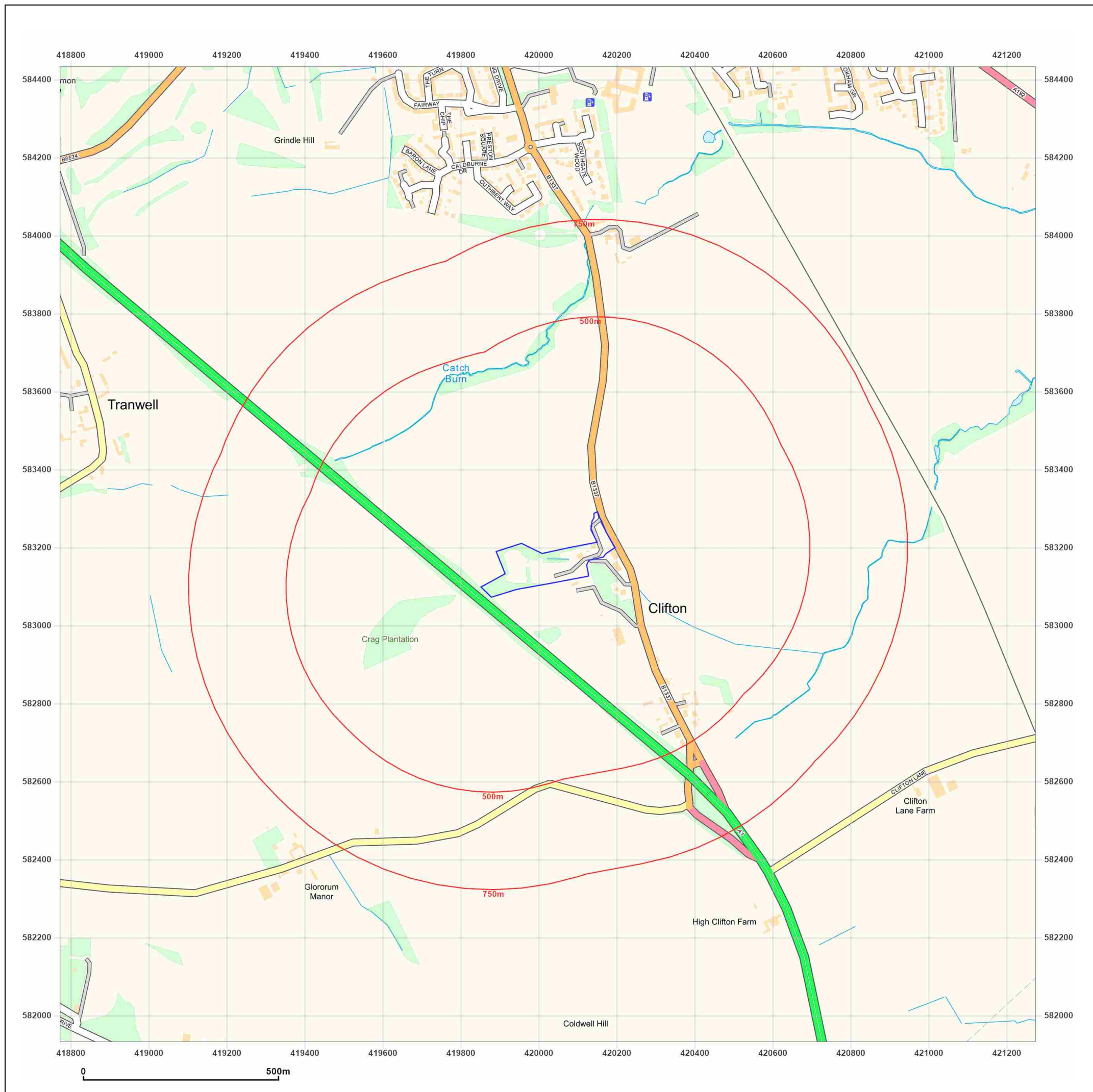


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Site Details:

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Client Ref: EMS_667712_879972
Report Ref: EMS-667712_879972
Grid Ref: 420023, 583183

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000



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Appendix C – Environmental Database

Clifton, Morpeth,

Order Details

Date: 08/02/2021
Your ref: EMS_667712_879973
Our Ref: EMS-667712_879973
Client: emapsite

Site Details

Location: 420022 583160
Area: 2.69 ha
Authority: [Northumberland Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.12

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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
13	1.1	<u>Historical industrial land uses</u>	5	3	15	6	-
15	1.2	<u>Historical tanks</u>	0	0	2	0	-
15	1.3	Historical energy features	0	0	0	0	-
15	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	<u>Historical garages</u>	0	1	0	0	-
16	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
17	2.1	<u>Historical industrial land uses</u>	6	5	22	7	-
19	2.2	<u>Historical tanks</u>	0	0	2	0	-
19	2.3	Historical energy features	0	0	0	0	-
20	2.4	Historical petrol stations	0	0	0	0	-
20	2.5	<u>Historical garages</u>	0	1	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill	0	0	0	0	-
21	3.2	Historical landfill (BGS records)	0	0	0	0	-
22	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
22	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
22	3.5	<u>Historical waste sites</u>	1	0	0	0	-
22	3.6	Licensed waste sites	0	0	0	0	-
23	3.7	Waste exemptions	0	0	0	0	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
24	4.1	<u>Recent industrial land uses</u>	1	1	1	-	-
25	4.2	<u>Current or recent petrol stations</u>	0	1	0	0	-
25	4.3	Electricity cables	0	0	0	0	-
25	4.4	Gas pipelines	0	0	0	0	-
25	4.5	Sites determined as Contaminated Land	0	0	0	0	-



26	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
26	4.7	Regulated explosive sites	0	0	0	0	-
26	4.8	Hazardous substance storage/usage	0	0	0	0	-
26	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
26	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
27	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
27	4.12	Radioactive Substance Authorisations	0	0	0	0	-
27	4.13	<u>Licensed Discharges to controlled waters</u>	0	3	3	0	-
28	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
28	4.15	Pollutant release to public sewer	0	0	0	0	-
28	4.16	List 1 Dangerous Substances	0	0	0	0	-
29	4.17	List 2 Dangerous Substances	0	0	0	0	-
29	4.18	<u>Pollution Incidents (EA/NRW)</u>	1	0	0	0	-
29	4.19	Pollution inventory substances	0	0	0	0	-
29	4.20	Pollution inventory waste transfers	0	0	0	0	-
30	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
31	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
33	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
35	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
36	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37	5.6	<u>Groundwater abstractions</u>	0	0	0	0	1
38	5.7	Surface water abstractions	0	0	0	0	0
38	5.8	<u>Potable abstractions</u>	0	0	0	0	1
39	5.9	<u>Source Protection Zones</u>	1	0	0	0	-
39	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
40	6.1	<u>Water Network (OS MasterMap)</u>	2	0	1	-	-



41	6.2	<u>Surface water features</u>	1	0	1	-	-
41	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
42	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
42	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
43	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
43	7.2	Historical Flood Events	0	0	0	-	-
43	7.3	Flood Defences	0	0	0	-	-
43	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
44	7.5	Flood Storage Areas	0	0	0	-	-
45	7.6	Flood Zone 2	None (within 50m)				
45	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
46	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
48	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
49	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
49	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
49	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
49	10.4	Special Protection Areas (SPA)	0	0	0	0	0
50	10.5	National Nature Reserves (NNR)	0	0	0	0	0
50	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
50	10.7	Designated Ancient Woodland	0	0	0	0	0
50	10.8	Biosphere Reserves	0	0	0	0	0
51	10.9	Forest Parks	0	0	0	0	0
51	10.10	Marine Conservation Zones	0	0	0	0	0
51	10.11	Green Belt	0	0	0	0	0
51	10.12	Proposed Ramsar sites	0	0	0	0	0



51	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
52	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
52	10.15	Nitrate Sensitive Areas	0	0	0	0	0
52	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
53	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
54	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
55	11.1	World Heritage Sites	0	0	0	-	-
56	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
56	11.3	National Parks	0	0	0	-	-
56	11.4	<u>Listed Buildings</u>	0	0	1	-	-
57	11.5	Conservation Areas	0	0	0	-	-
57	11.6	Scheduled Ancient Monuments	0	0	0	-	-
57	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
58	12.1	<u>Agricultural Land Classification</u>	Grade 3 (within 250m)				
59	12.2	Open Access Land	0	0	0	-	-
59	12.3	Tree Felling Licences	0	0	0	-	-
59	12.4	Environmental Stewardship Schemes	0	0	0	-	-
60	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
61	13.1	<u>Priority Habitat Inventory</u>	2	2	1	-	-
62	13.2	Habitat Networks	0	0	0	-	-
62	13.3	Open Mosaic Habitat	0	0	0	-	-
62	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
63	14.1	<u>10k Availability</u>	Identified (within 500m)				
64	14.2	<u>Artificial and made ground (10k)</u>	2	0	0	0	-
65	14.3	<u>Superficial geology (10k)</u>	2	0	1	2	-



66	14.4	Landslip (10k)	0	0	0	0	-
67	14.5	<u>Bedrock geology (10k)</u>	2	3	0	2	-
68	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	4	5	4	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
69	15.1	<u>50k Availability</u>	Identified (within 500m)				
70	15.2	<u>Artificial and made ground (50k)</u>	1	0	0	0	-
71	15.3	<u>Artificial ground permeability (50k)</u>	2	0	-	-	-
72	15.4	<u>Superficial geology (50k)</u>	1	0	1	1	-
73	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
73	15.6	Landslip (50k)	0	0	0	0	-
73	15.7	Landslip permeability (50k)	None (within 50m)				
74	15.8	<u>Bedrock geology (50k)</u>	1	1	0	2	-
75	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
75	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	3	3	3	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
77	16.1	<u>BGS Boreholes</u>	1	2	5	-	-
Page	Section	Natural ground subsidence					
79	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
80	17.2	<u>Running sands</u>	Very low (within 50m)				
81	17.3	<u>Compressible deposits</u>	Very low (within 50m)				
83	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
84	17.5	<u>Landslides</u>	Very low (within 50m)				
85	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
87	18.1	Natural cavities	0	0	0	0	-
88	18.2	<u>BritPits</u>	2	0	2	1	-
89	18.3	<u>Surface ground workings</u>	3	4	17	-	-
90	18.4	<u>Underground workings</u>	0	0	0	0	4
90	18.5	Historical Mineral Planning Areas	0	0	0	0	-



91	18.6	Non-coal mining	0	0	0	0	0
91	18.7	<u>Mining cavities</u>	0	0	1	0	0
91	18.8	JPB mining areas	None (within 0m)				
92	18.9	<u>Coal mining</u>	Identified (within 0m)				
92	18.10	Brine areas	None (within 0m)				
92	18.11	Gypsum areas	None (within 0m)				
92	18.12	Tin mining	None (within 0m)				
92	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
93	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
94	20.1	<u>BGS Estimated Background Soil Chemistry</u>	3	3	-	-	-
94	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
95	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
96	21.1	Underground railways (London)	0	0	0	-	-
96	21.2	Underground railways (Non-London)	0	0	0	-	-
97	21.3	Railway tunnels	0	0	0	-	-
97	21.4	<u>Historical railway and tunnel features</u>	2	0	2	-	-
97	21.5	Royal Mail tunnels	0	0	0	-	-
98	21.6	Historical railways	0	0	0	-	-
98	21.7	Railways	0	0	0	-	-
98	21.8	Crossrail 1	0	0	0	0	-
98	21.9	Crossrail 2	0	0	0	0	-
98	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 06/05/2016

Site Area: 2.69ha



Recent site history - 2009 aerial photograph



Capture Date: 31/05/2009

Site Area: 2.69ha



Recent site history - 2000 aerial photograph



Capture Date: 07/05/2000

Site Area: 2.69ha



Recent site history - 1999 aerial photograph



Capture Date: 10/09/1999

Site Area: 2.69ha



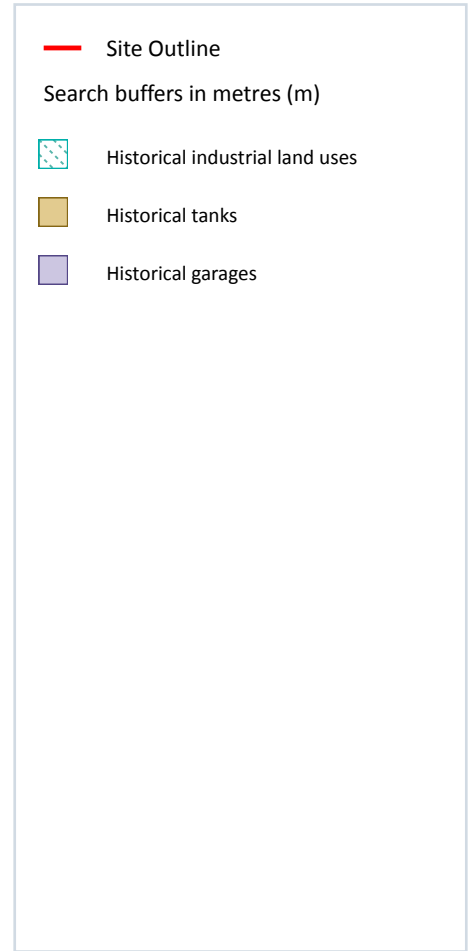
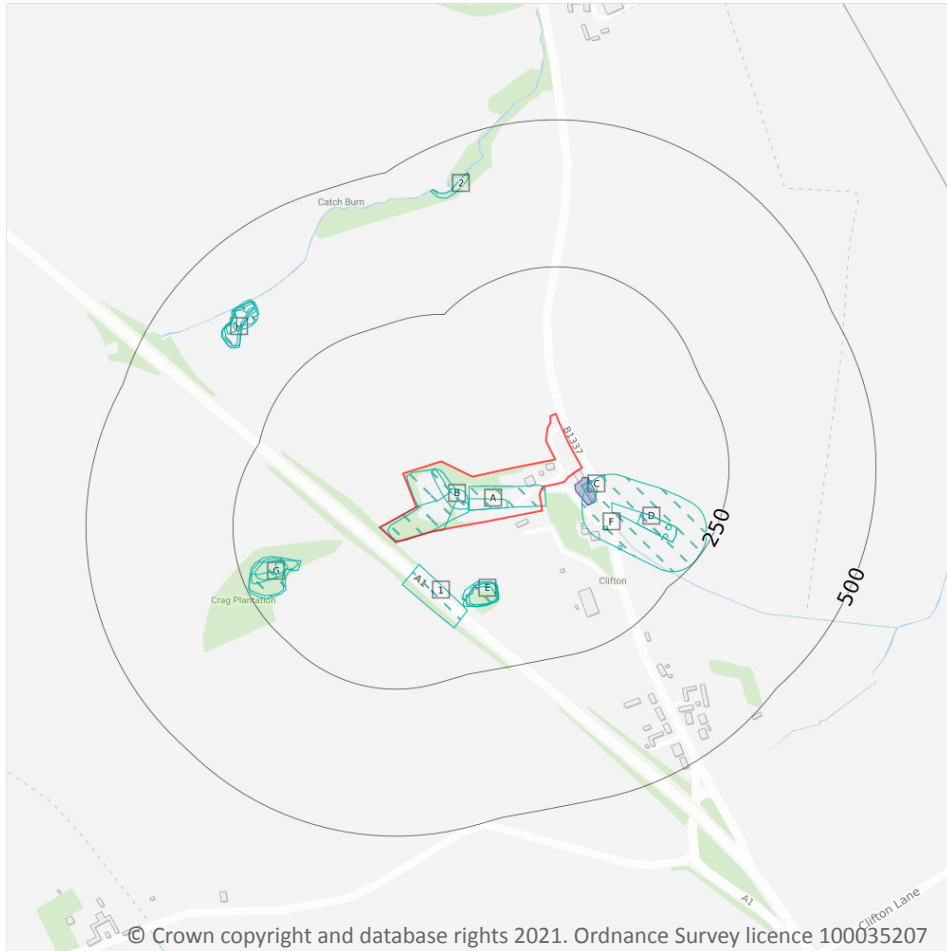
OS MasterMap site plan



Site Area: 2.69ha



1 Past land use



1.1 Historical industrial land uses

Records within 500m

29

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

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

ID	Location	Land use	Dates present	Group ID
A	On site	Railway Sidings	1940	1305567

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Commercial/Industrial	1940	1306923
B	On site	Railway Sidings	1972	1305565
B	On site	Refuse Heap	1972	1327769
B	On site	Unspecified Heap	1975 - 1992	1404992
C	25m SE	Garage	1982	1338599
D	29m SE	Colliery	1924	1375808
1	47m S	Cuttings	1972 - 1992	1345946
D	78m SE	Colliery	1924	1357963
E	98m S	Unspecified Old Quarry	1924 - 1938	1397379
E	101m S	Unspecified Old Quarry	1940	1393717
F	102m SE	Unspecified Tanks	1938	1318985
E	103m S	Unspecified Old Quarry	1896 - 1924	1341337
E	106m S	Unspecified Quarry	1859	1319681
D	127m SE	Railway Sidings	1924	1305566
F	143m SE	Unspecified Tanks	1938	1318984
G	146m SW	Unspecified Old Quarry	1924	1366324
G	152m SW	Unspecified Old Quarry	1938	1369622
G	171m SW	Unspecified Heap	1972	1311167
D	175m SE	Unspecified Tanks	1924	1399430
G	176m W	Unspecified Disused Quarry	1975 - 1992	1353493
D	180m SE	Unspecified Tanks	1924	1404929
G	195m SW	Unspecified Ground Workings	1972	1309131
H	352m NW	Unspecified Old Quarry	1924	1399013
H	354m NW	Unspecified Old Quarry	1972	1394188
H	358m NW	Unspecified Old Quarry	1938	1350818
H	359m NW	Unspecified Pit	1859	1335892
H	360m NW	Unspecified Quarry	1896	1319680
2	411m NW	Unspecified Ground Workings	1972	1309130

This data is sourced from Ordnance Survey / Groundsure.



1.2 Historical tanks

Records within 500m

2

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

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

ID	Location	Land use	Dates present	Group ID
D	175m SE	Unspecified Tank	1922	201395
D	181m SE	Unspecified Tank	1922	201394

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 un-grouped 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 un-grouped 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

1

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 un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land use	Dates present	Group ID
C	14m SE	Garage	1960	37879

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

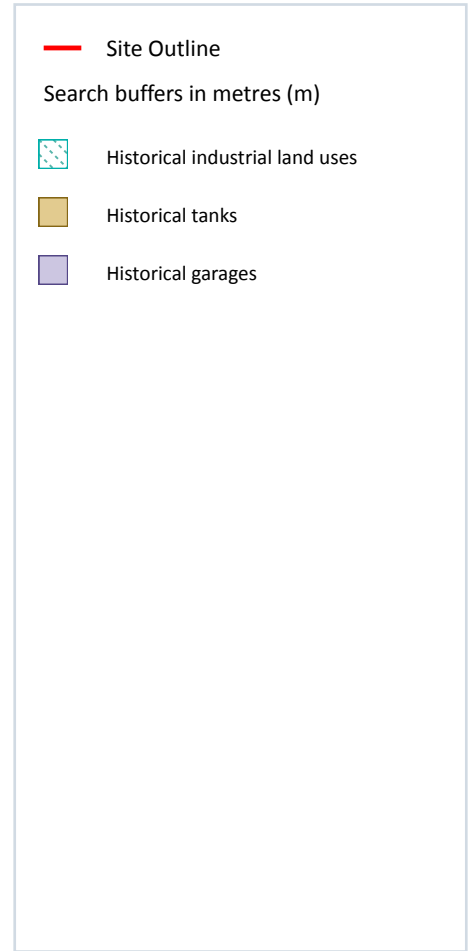
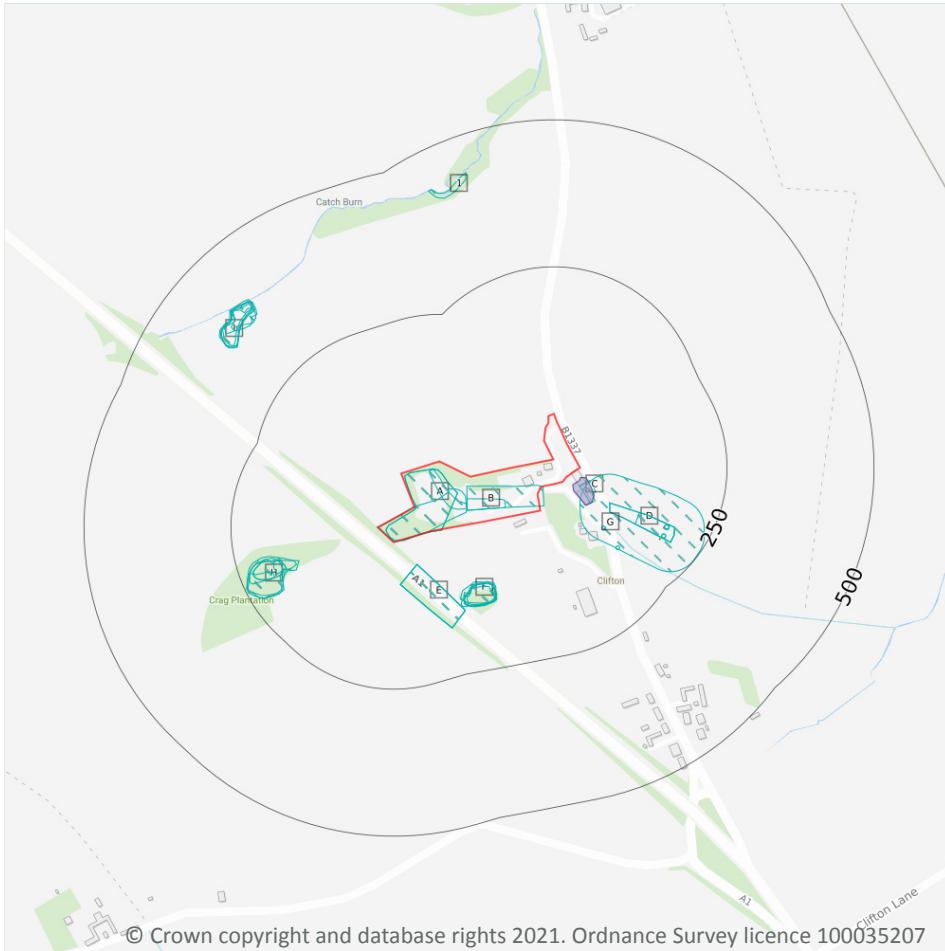
0

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

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



2 Past land use - un-grouped



2.1 Historical industrial land uses

Records within 500m

40

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

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

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Heap	1992	1404992
A	On site	Railway Sidings	1972	1305565
A	On site	Refuse Heap	1972	1327769

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Heap	1975	1404992
B	On site	Railway Sidings	1940	1305567
B	On site	Unspecified Commercial/Industrial	1940	1306923
C	25m SE	Garage	1982	1338599
D	29m SE	Colliery	1924	1375808
E	47m S	Cuttings	1992	1345946
E	47m S	Cuttings	1972	1345946
E	47m S	Cuttings	1975	1345946
D	78m SE	Colliery	1924	1357963
D	78m SE	Colliery	1924	1357963
F	98m S	Unspecified Old Quarry	1938	1397379
F	101m S	Unspecified Old Quarry	1940	1393717
F	102m S	Unspecified Old Quarry	1924	1397379
G	102m SE	Unspecified Tanks	1938	1318985
F	103m S	Unspecified Old Quarry	1924	1341337
F	103m S	Unspecified Old Quarry	1896	1341337
F	106m S	Unspecified Quarry	1859	1319681
D	127m SE	Railway Sidings	1924	1305566
G	143m SE	Unspecified Tanks	1938	1318984
H	146m SW	Unspecified Old Quarry	1924	1366324
H	152m SW	Unspecified Old Quarry	1938	1369622
H	171m SW	Unspecified Old Quarry	1924	1366324
H	171m SW	Unspecified Heap	1972	1311167
D	175m SE	Unspecified Tanks	1924	1399430
D	175m SE	Unspecified Tanks	1924	1399430
H	176m W	Unspecified Disused Quarry	1992	1353493
H	176m W	Unspecified Disused Quarry	1975	1353493
D	180m SE	Unspecified Tanks	1924	1404929



ID	Location	Land Use	Date	Group ID
D	180m SE	Unspecified Tanks	1924	1404929
H	195m SW	Unspecified Ground Workings	1972	1309131
I	352m NW	Unspecified Old Quarry	1924	1399013
I	353m NW	Unspecified Old Quarry	1924	1399013
I	354m NW	Unspecified Old Quarry	1972	1394188
I	358m NW	Unspecified Old Quarry	1938	1350818
I	359m NW	Unspecified Pit	1859	1335892
I	360m NW	Unspecified Quarry	1896	1319680
1	411m NW	Unspecified Ground Workings	1972	1309130

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

2

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

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

ID	Location	Land Use	Date	Group ID
D	175m SE	Unspecified Tank	1922	201395
D	181m SE	Unspecified Tank	1922	201394

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

1

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

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

ID	Location	Land Use	Date	Group ID
C	14m SE	Garage	1960	37879

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



— Site Outline

Search buffers in metres (m)

■ Historical waste sites

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

1

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

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

ID	Location	Address	Further Details	Date
1	On site	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1960

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

0

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

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- ▲ Current or recent petrol stations
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m **3**

Current potentially contaminative industrial sites.

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

ID	Location	Company	Address	Activity	Category
A	On site	Ideal Caravan Sales Ltd	Clifton, Morpeth, Northumberland, NE61 6DG	New Vehicles	Motoring
B	3m SE	Clifton Car Sales	Clifton Garage, Clifton, Morpeth, Northumberland, NE61 6DG	Secondhand Vehicles	Motoring

ID	Location	Company	Address	Activity	Category
2	199m W	Quarry (Disused)	Northumberland, NE61	Unspecified Quarries Or Mines	Extractive Industries

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

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

Open, closed, under development and obsolete petrol stations.

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

ID	Location	Company	Address	LPG	Status
B	6m SE	OBSOLETE	Great North Road, Clifton, Morpeth, Northumberland, NE61 6DQ	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

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

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

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

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

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

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

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

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	6
----------------------------	----------

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

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

ID	Location	Address	Details	
A	22m S	HERON SERVICE STATION, CLIFTON, MORPETH, NORTHUMBELAND	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 225/0911 Permit Version: 1 Receiving Water: CATCH BURN TRIBUTARY	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 15/07/1991 Effective Date: 15/07/1991 Revocation Date: 30/09/1996
A	22m S	HERON SERVICE STATION, CLIFTON, MORPETH, NORTHUMBELAND	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 225/0912 Permit Version: 1 Receiving Water: CATCH BURN TRIBUTARY	Status: REVOKED - UNSPECIFIED Issue date: 15/07/1991 Effective Date: 15/07/1991 Revocation Date: 07/05/1992
A	22m S	HERON SERVICE STATION, CLIFTON, MORPETH, NORTHUMBELAND	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 225/1004* Permit Version: 1 Receiving Water: CATCH BURN TRIB	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 22/04/1997 Effective Date: 22/04/1997 Revocation Date: -

ID	Location	Address	Details	
C	58m SE	HERON SERVICE STATION, CLIFTON, MORPETH, NORTHUMBELAND	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 225/1004 Permit Version: 1 Receiving Water: CATCH BURN TRIB	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 22/04/1997 Effective Date: 22/04/1997 Revocation Date: -
C	58m SE	HERON SERVICE STATION, CLIFTON, MORPETH, NORTHUMBELAND	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE (CONTAM SURFACE WATER, NOT WASTE SIT Permit Number: 225/0935 Permit Version: 1 Receiving Water: CATCH BURN TRIB (WANSBECK)	Status: REVOKED - UNSPECIFIED Issue date: 07/05/1992 Effective Date: 07/05/1992 Revocation Date: 27/01/2004
C	58m SE	HERON SERVICE STATION, CLIFTON, MORPETH, NORTHUMBELAND	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 225/1004 Permit Version: 1 Receiving Water: CATCH BURN TRIB	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 22/04/1997 Effective Date: 22/04/1997 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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



4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

1

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

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

ID	Location	Details	
1	On site	Incident Date: 02/11/2001 Incident Identification: 40611 Pollutant: Contaminated Water Pollutant Description: Minewater	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m

0

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

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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



4.21 Pollution inventory radioactive waste

Records within 500m

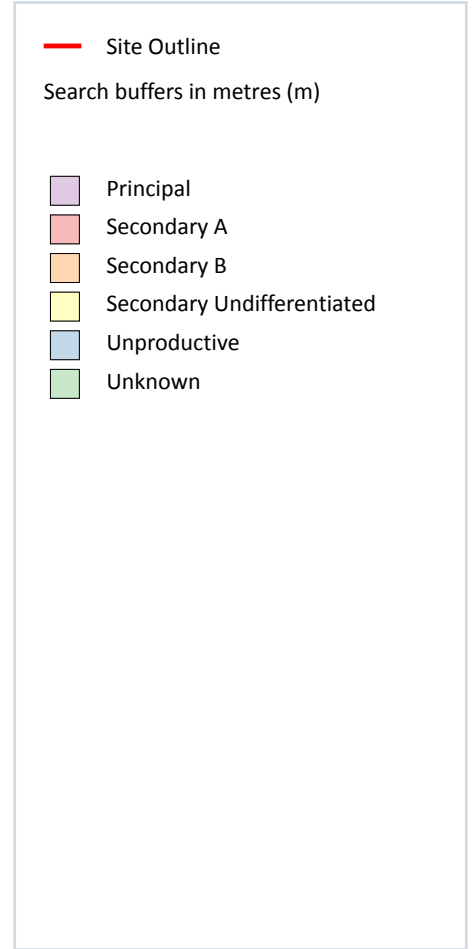
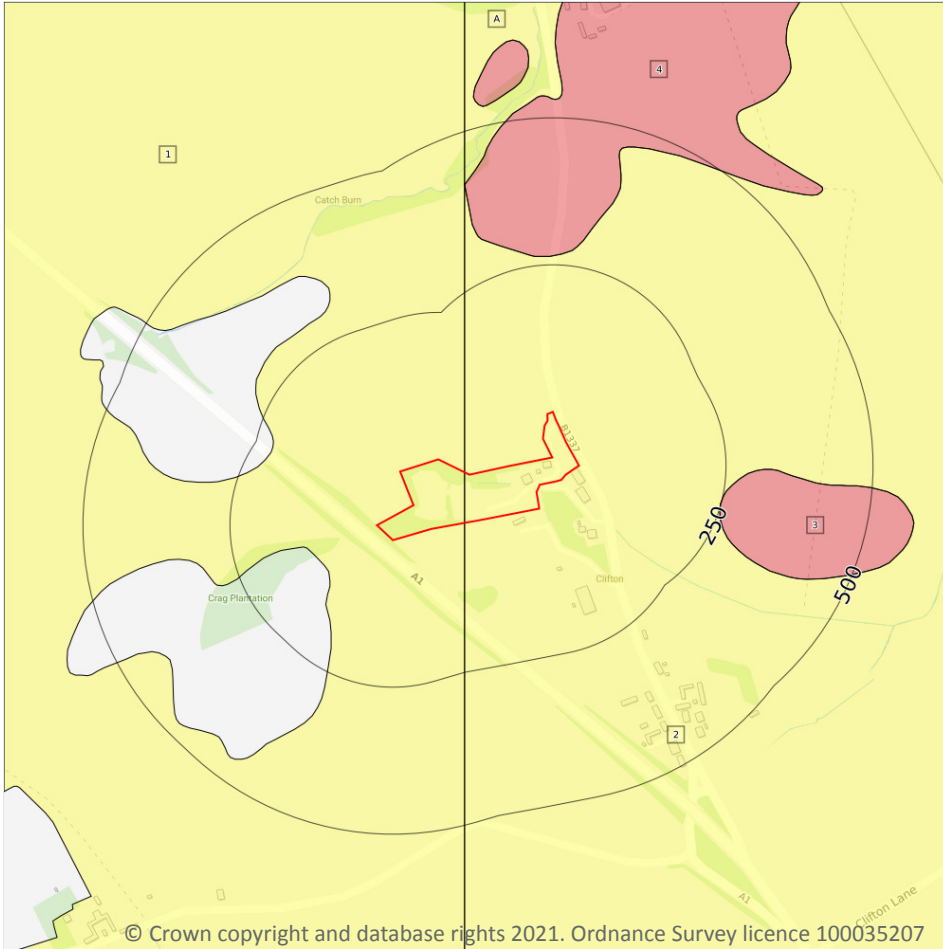
0

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

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



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

5

Aquifer status of groundwater held within superficial geology.

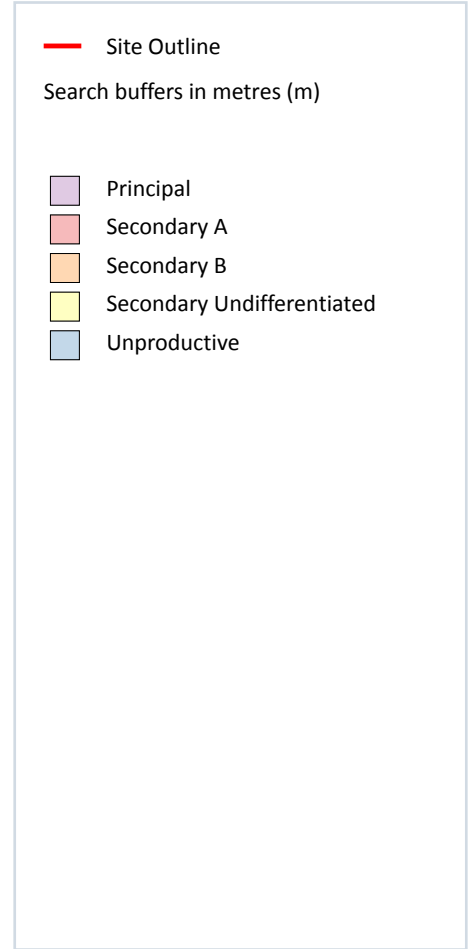
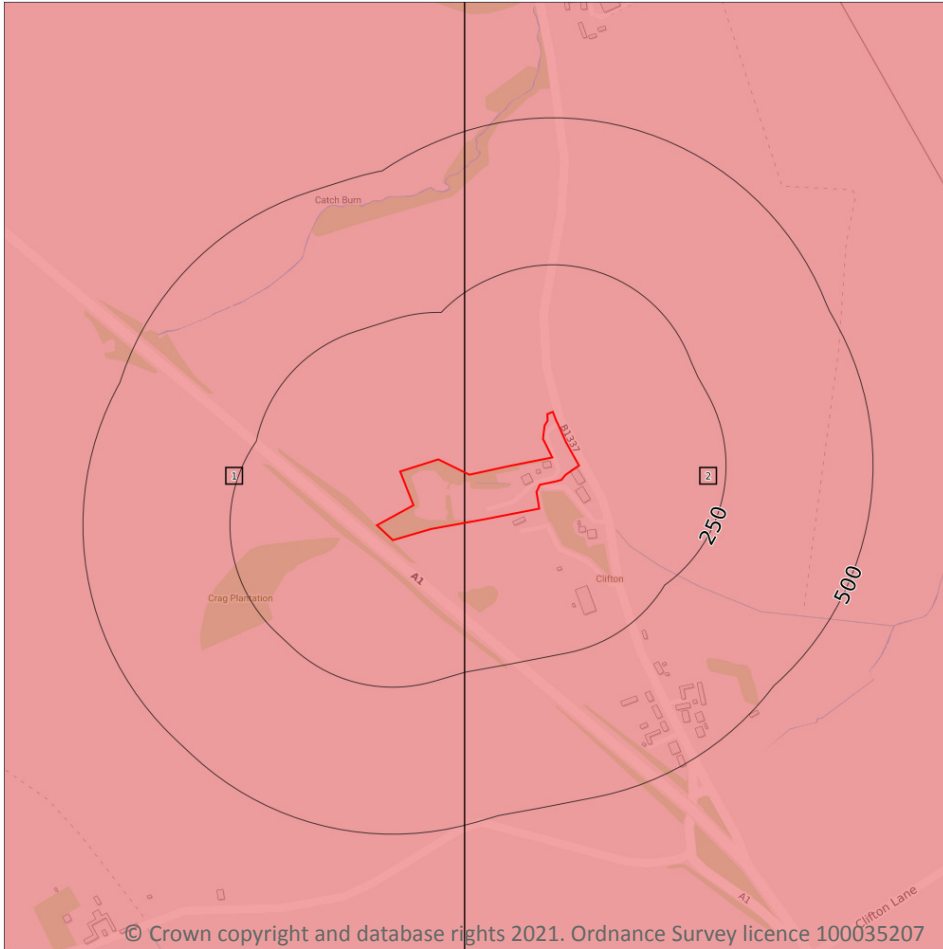
Features are displayed on the Hydrogeology map on **page 31**

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

ID	Location	Designation	Description
3	249m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	264m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
A	414m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

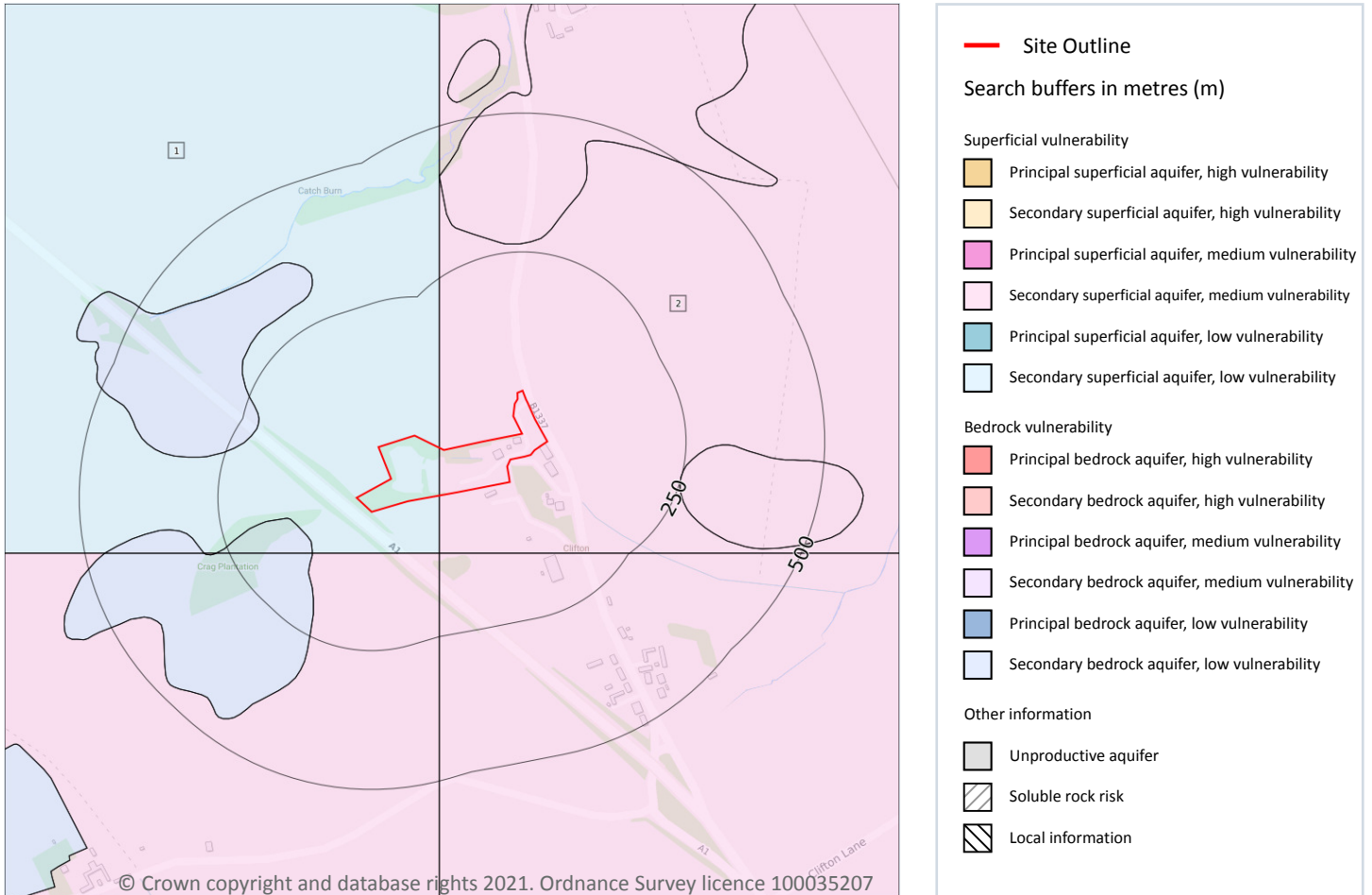
Features are displayed on the Bedrock aquifer map on **page 33**

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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid.

Groundwater vulnerability is described as High, Medium or Low as follows:

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

Features are displayed on the Groundwater vulnerability map on **page 35**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

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

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

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

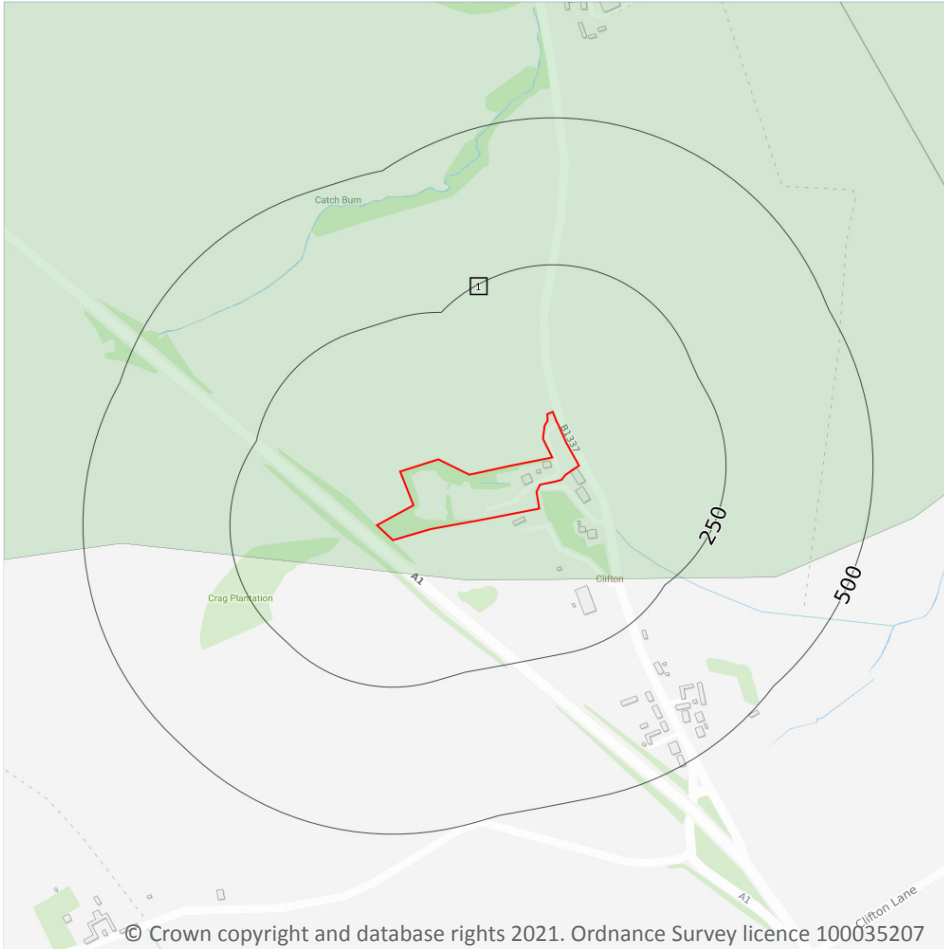
5.5 Groundwater vulnerability- local information

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

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

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

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 37**

ID	Location	Details	
-	1784m W	Status: Historical Licence No: 1/22/06/045 Details: Potable Water Supply - Direct Direct Source: GROUNDWATERS Point: TRANWELL BOREHOLE (UPPER LIMESTONE & MILLSTONE GRIT) Data Type: Point Name: NORTHUMBRIAN WATER Easting: 418080 Northing: 582880	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 27/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/05/1966 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

0

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

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

5.8 Potable abstractions

Records within 2000m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 37**

ID	Location	Details	
-	1784m W	Status: Historical Licence No: 1/22/06/045 Details: Potable Water Supply - Direct Direct Source: GROUNDWATERS Point: TRANWELL BOREHOLE (UPPER LIMESTONE & MILLSTONE GRIT) Data Type: Point Name: NORTHUMBRIAN WATER Easting: 418080 Northing: 582880	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 27/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/05/1966 Version End Date: -

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



5.9 Source Protection Zones

Records within 500m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 37**

ID	Location	Type	Description
1	On site	3	Total catchment

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

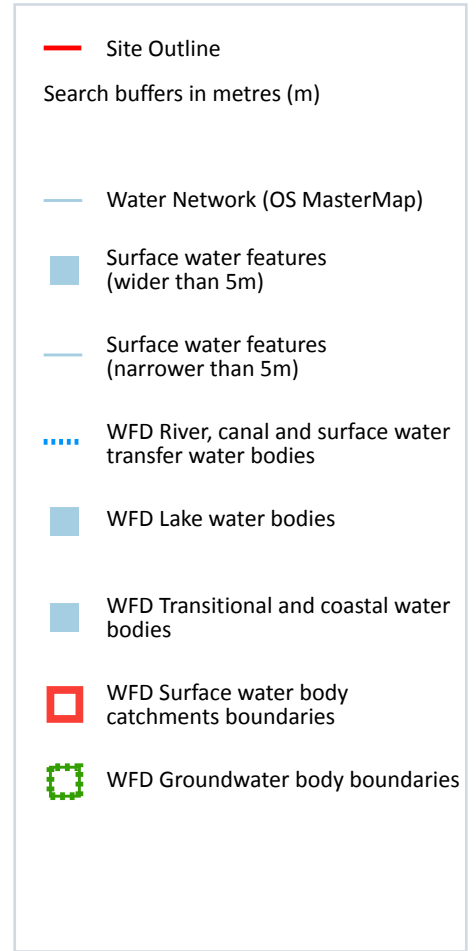
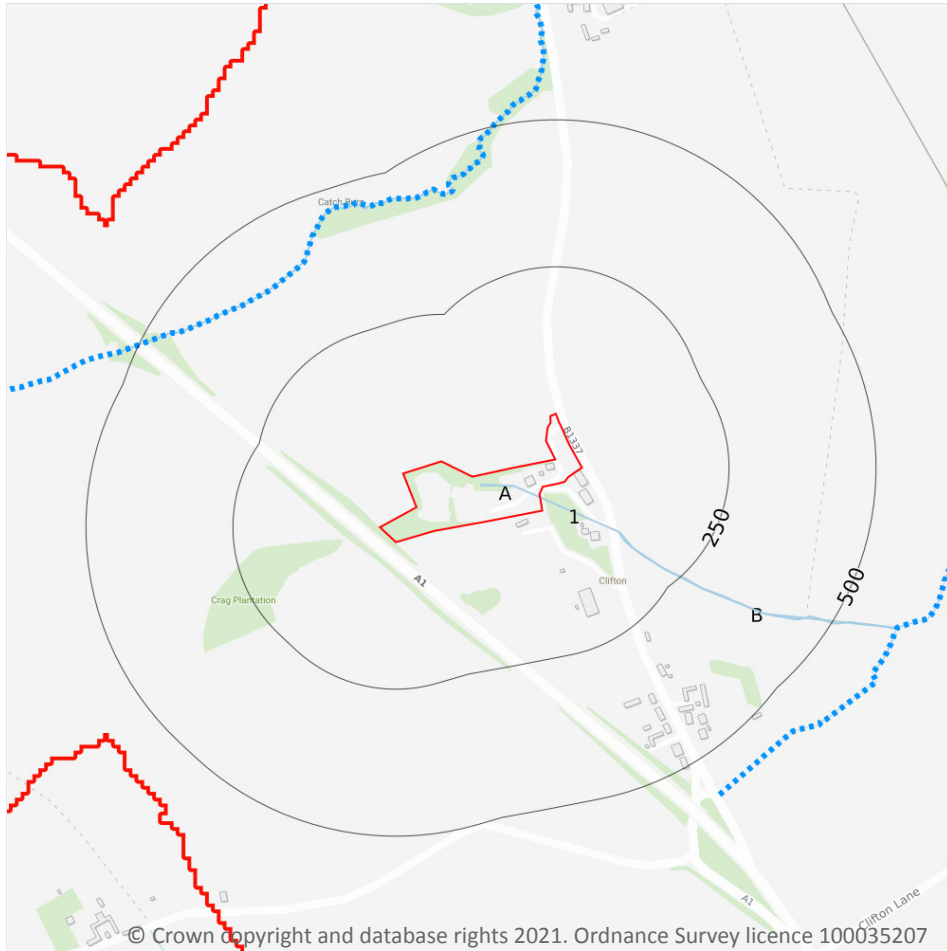
0

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

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



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

3

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 40**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	126m SE	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	2
----------------------------	----------

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 40**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

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

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

Features are displayed on the Hydrology map on **page 40**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River WB catchment	Sleek Burn / Hepscoth Burn Source to Tidal Limit	GB103022076230	Blyth	Northumberland Rivers

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

6.4 WFD Surface water bodies

Records identified

1

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

Features are displayed on the Hydrology map on **page 40**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
2	386m NW	River	Sleek Burn / Hepscoth Burn Source to Tidal Limit	GB103022076230	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 40**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Northumberland Carboniferous Limestone and Coal Measures	GB40302G700200	Poor	Poor	Good	2015

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



7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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



7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

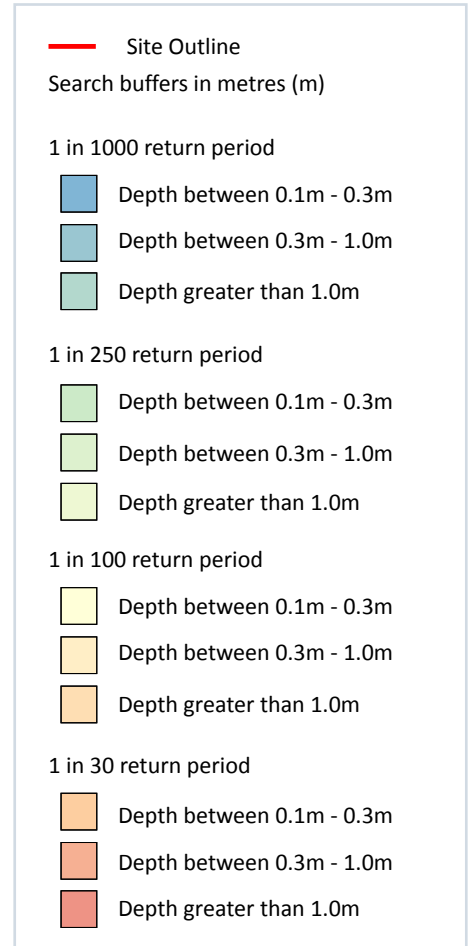
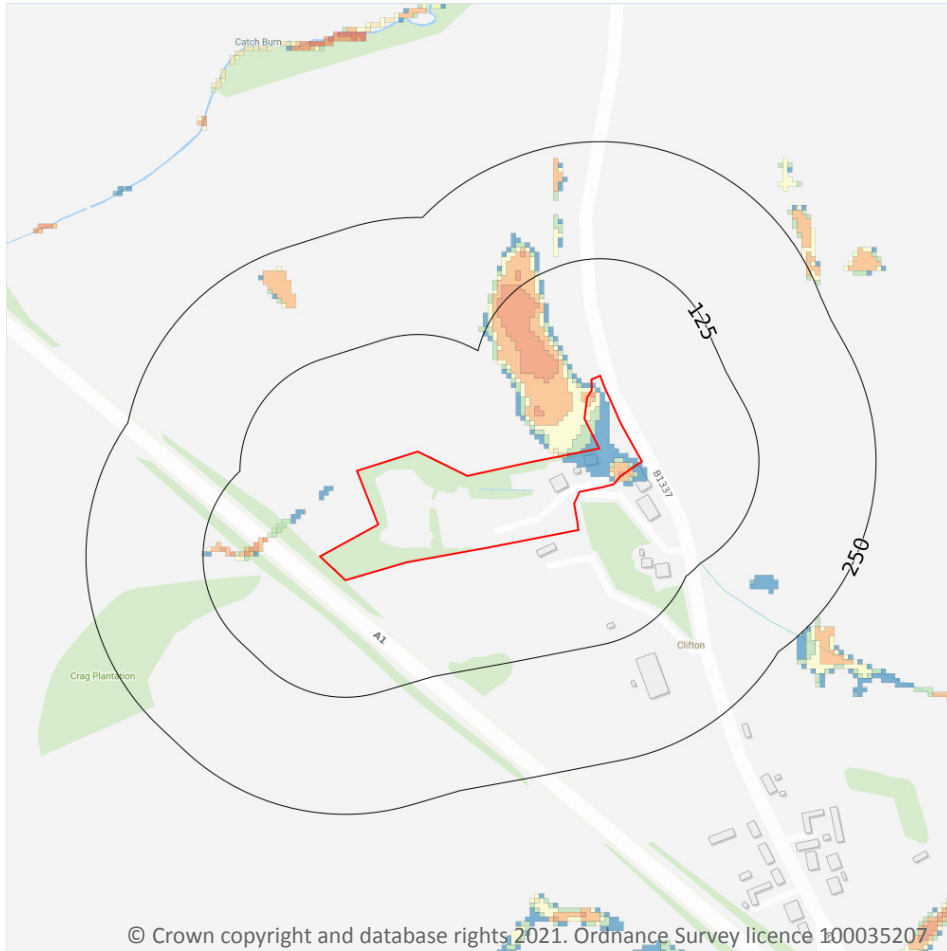
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on **page 46**

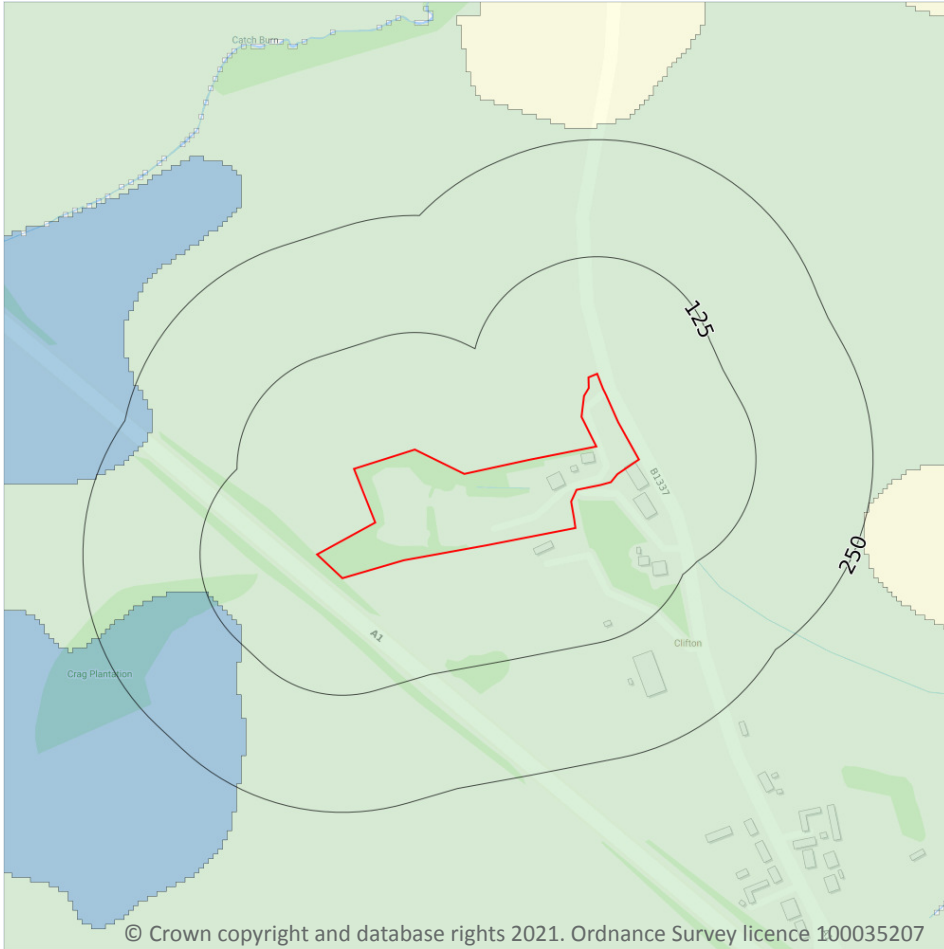
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

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 48**

This data is sourced from Ambient Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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



10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

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.

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

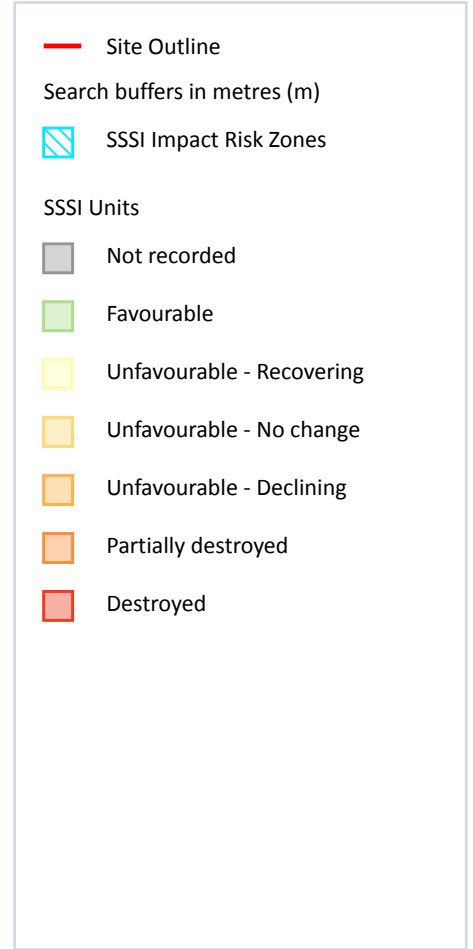
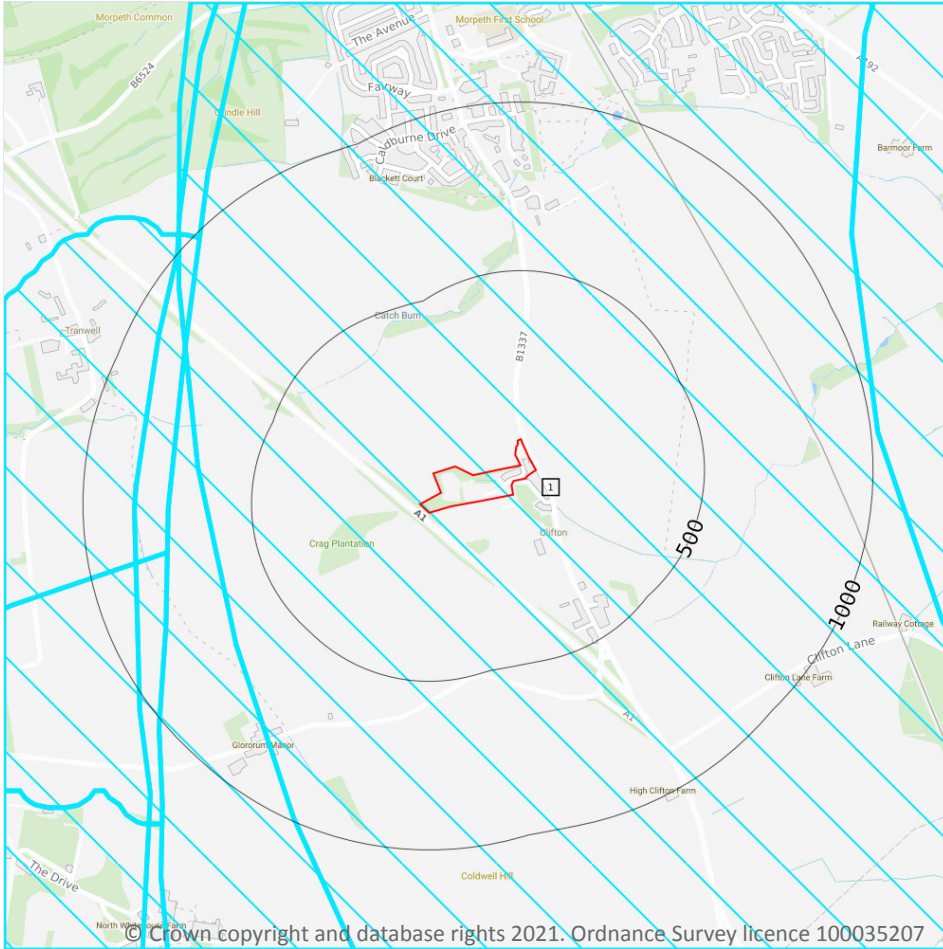
0

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

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



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 53**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines</p> <p>Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t.</p> <p>Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)</p> <p>Notes: For new residential development of 10 or more units in this area financial contributions towards the Northumberland Council Coastal Mitigation Service are expected to offset recreational impacts. Contact Northumberland CC Ecologists for more info.</p>

This data is sourced from Natural England.

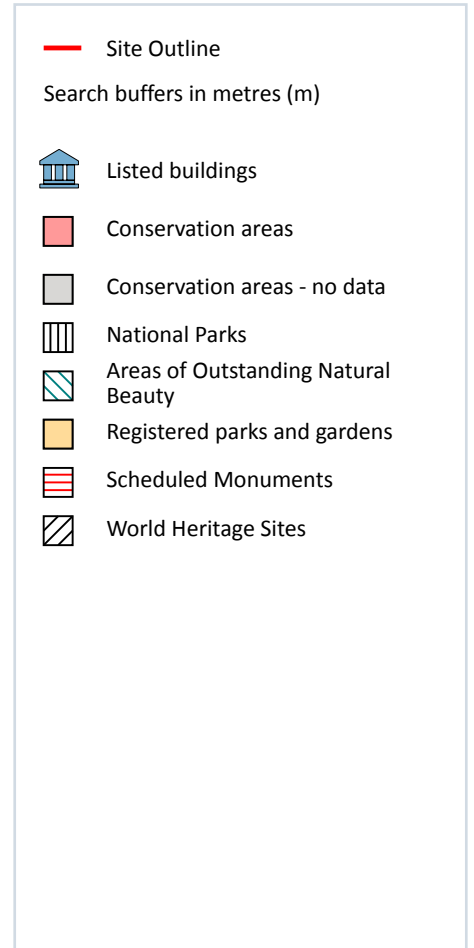
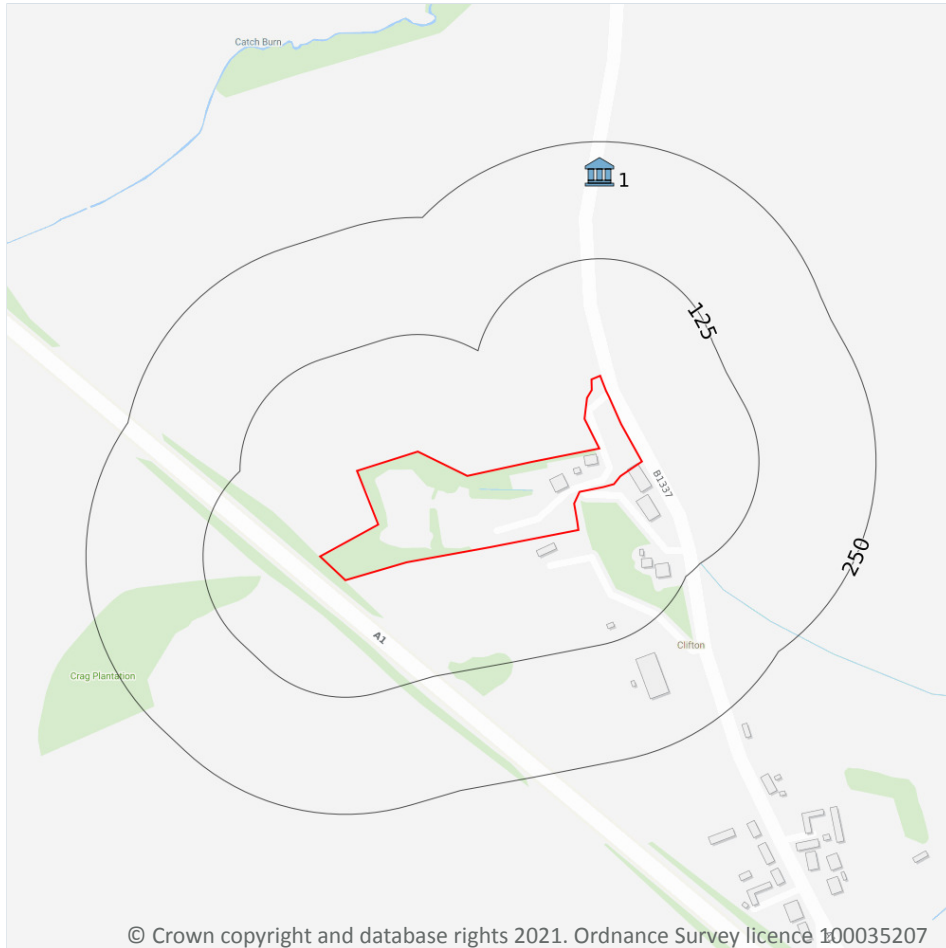
10.18 SSSI Units

Records within 2000m	0
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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

11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

1

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.

Features are displayed on the Visual and cultural designations map on **page 55**

ID	Location	Name	Grade	Reference Number	Listed date
1	218m N	Milepost 500 Metres South Of Catchburn Farm, Hepscoth, Northumberland, NE61	II	1370733	29/04/1987

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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

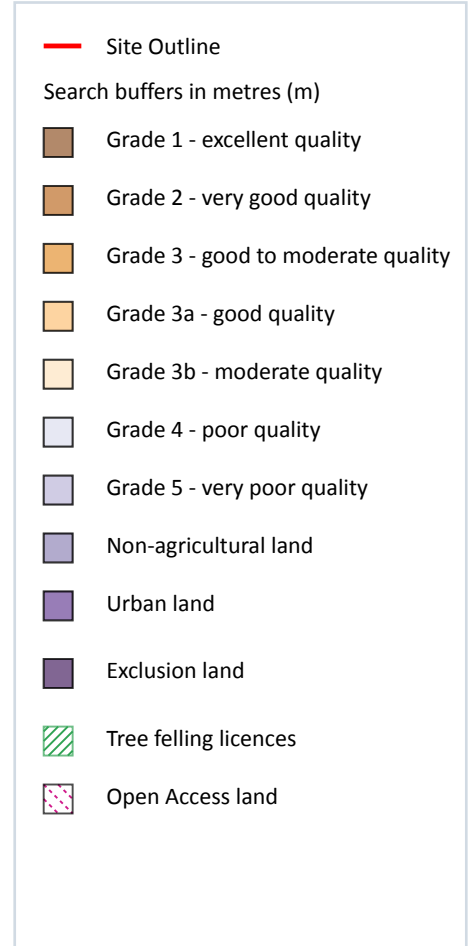
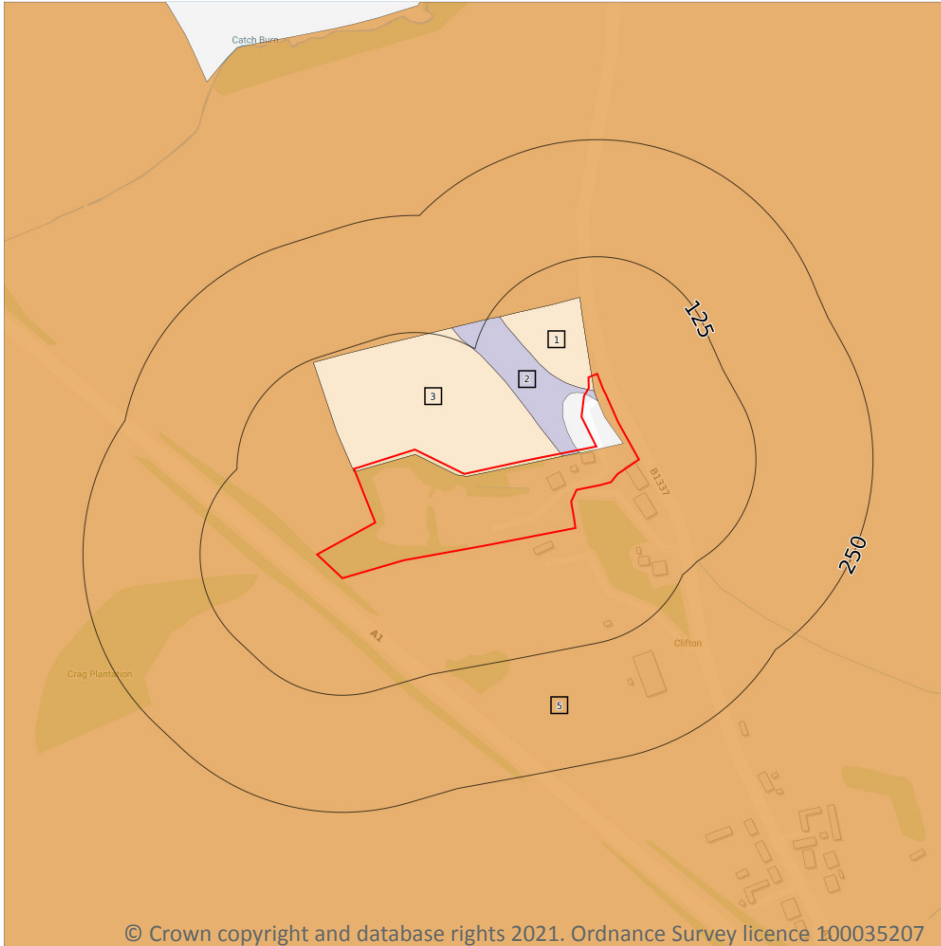
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

4

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 58**

ID	Location	Classification	Description
1	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
2	On site	Grade 5	Very poor quality agricultural land. Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

ID	Location	Classification	Description
3	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
5	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

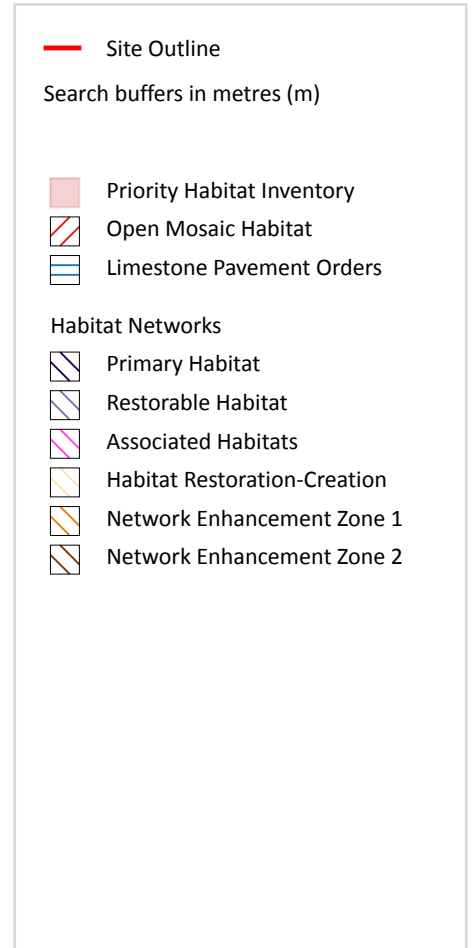
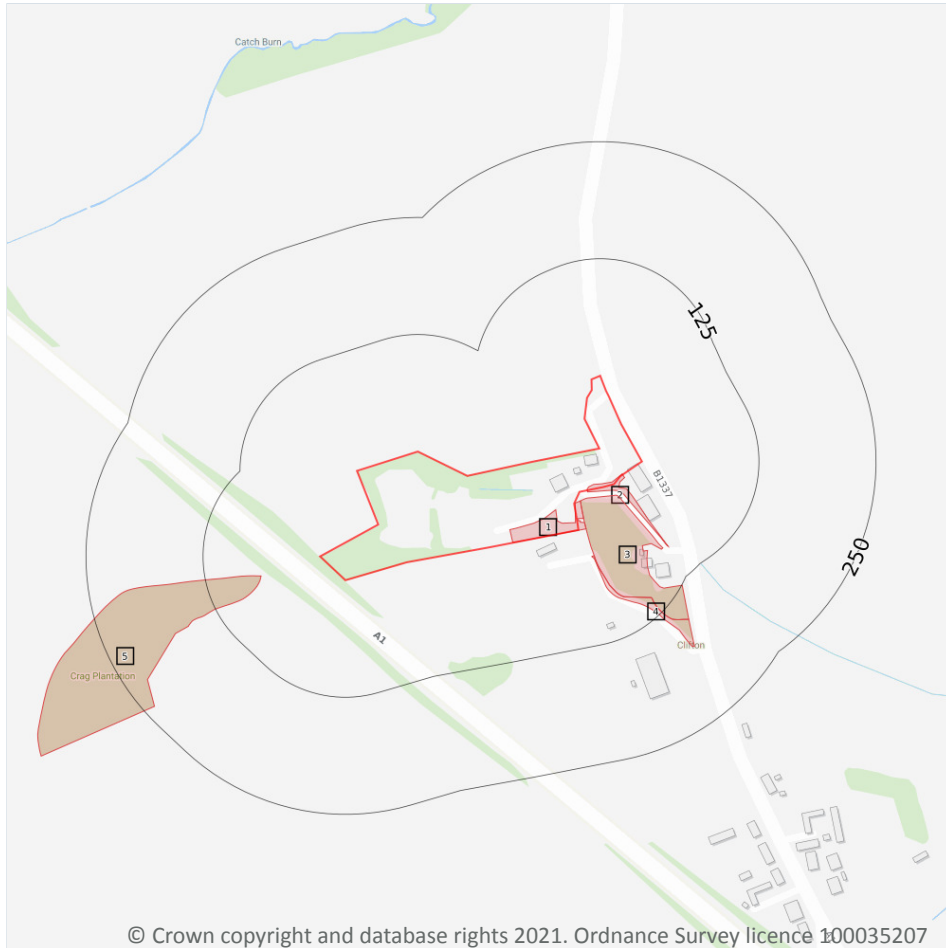
0

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

This data is sourced from Natural England.



13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m

5

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

Features are displayed on the Habitat designations map on **page 61**

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	5m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	32m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
5	66m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

2

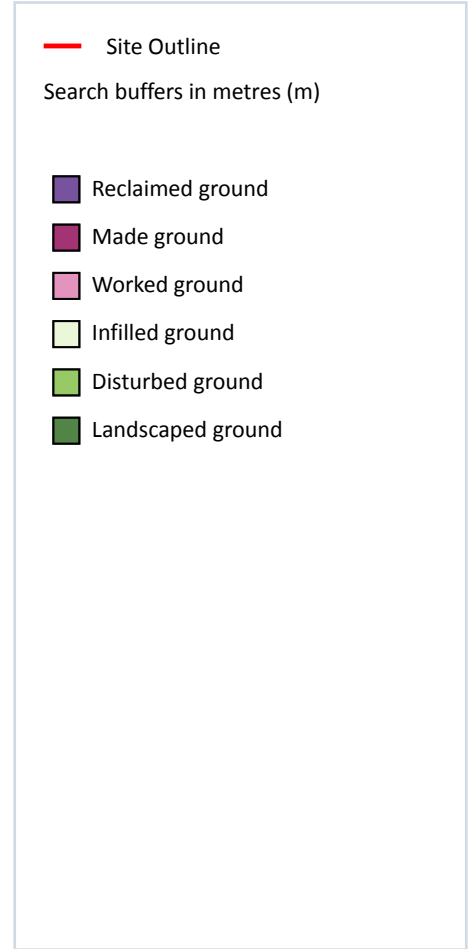
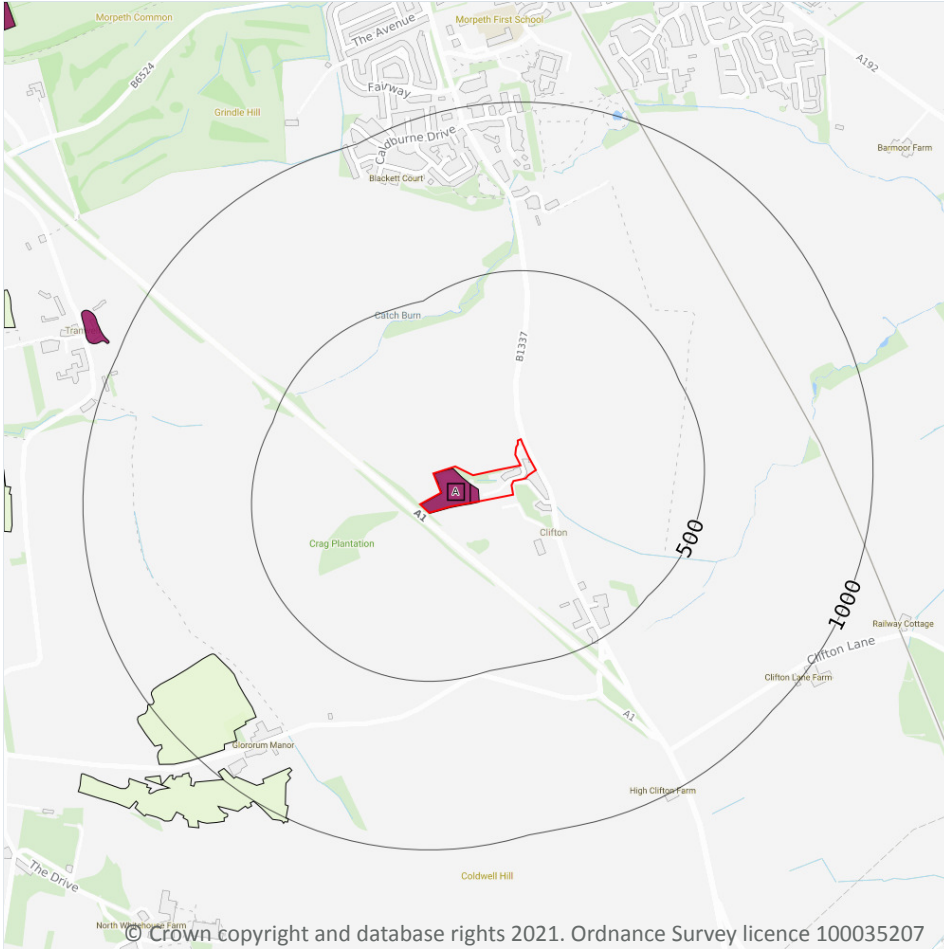
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 63**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	NZ18SE
2	On site	Full	Full	Full	No coverage	NZ28SW

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

2

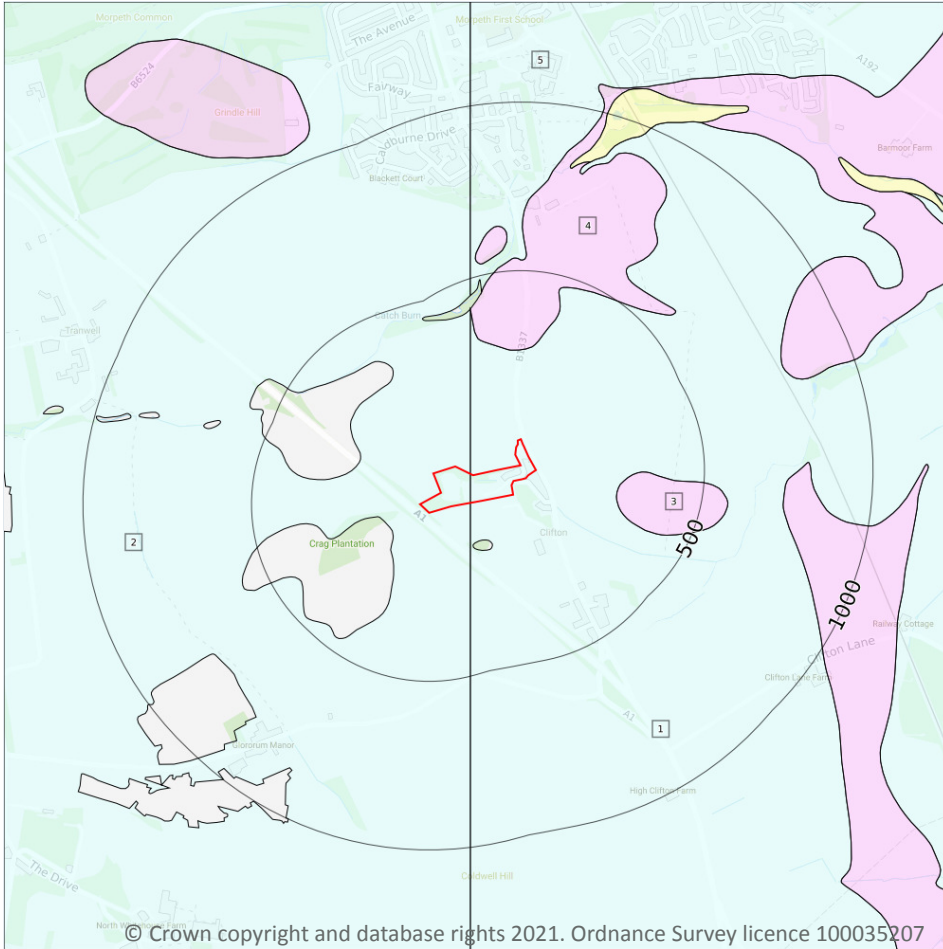
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 64**

ID	Location	LEX Code	Description	Rock description
A	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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

14.3 Superficial geology (10k)

Records within 500m

5

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 65**

ID	Location	LEX Code	Description	Rock description
1	On site	TILL-DMTN	Till - Diamicton	Diamicton
2	On site	TILL-DMTN	Till - Diamicton	Diamicton
3	249m E	GFDU-XVSZ	Glaciofluvial Deposits - Gravel, Sand And Silt	Gravel, Sand And Silt
4	265m N	GFDU-XVSZ	Glaciofluvial Deposits - Gravel, Sand And Silt	Gravel, Sand And Silt

ID	Location	LEX Code	Description	Rock description
5	450m N	TILL-DMTN	Till - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

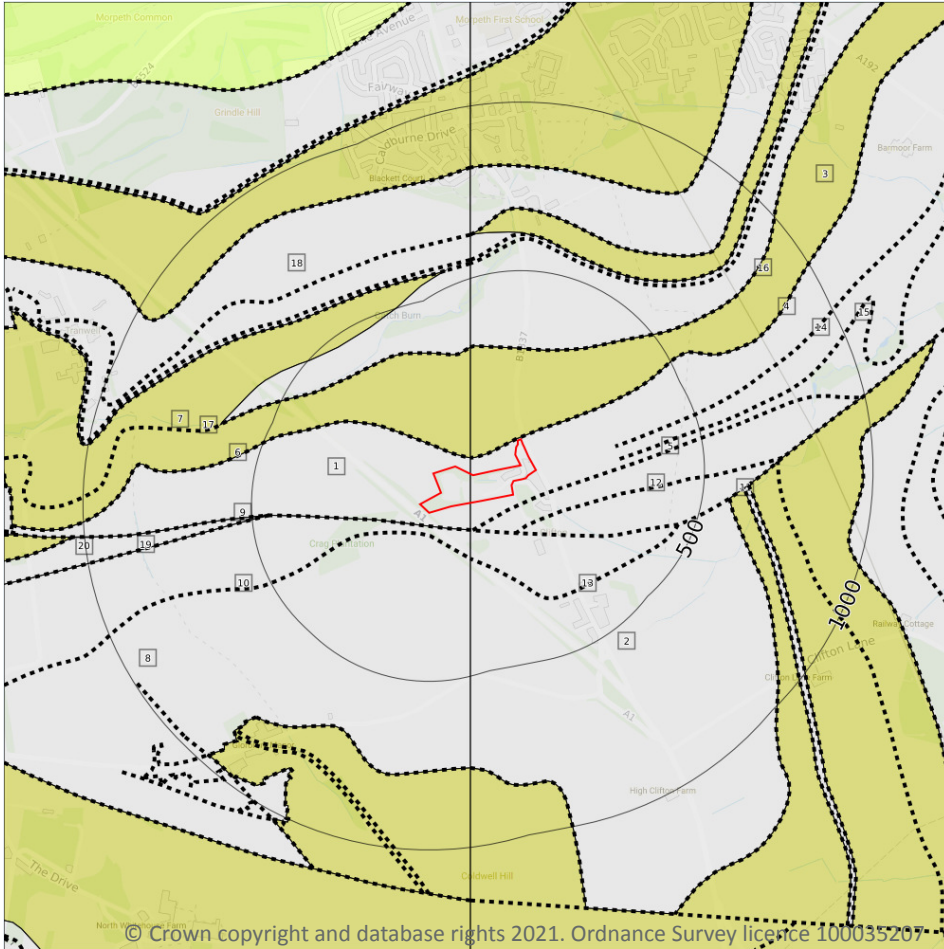
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



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

14.5 Bedrock geology (10k)

Records within 500m

7

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 67**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3	6m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
7	35m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
8	40m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
18	310m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
20	450m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

13

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.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 67**

ID	Location	Category	Description
4	6m N	ROCK	Coal seam, inferred
5	35m SE	ROCK	Coal seam, inferred
6	35m N	ROCK	Coal seam, inferred
9	40m S	FAULT	Normal fault, inferred
10	66m S	ROCK	Coal seam, inferred
11	79m S	FAULT	Normal fault, inferred
12	100m SE	ROCK	Coal seam, inferred
13	163m S	ROCK	Coal seam, inferred
14	246m E	ROCK	Coal seam, inferred
15	251m E	ROCK	Coal seam, inferred
16	269m N	ROCK	Coal seam, inferred
17	310m NW	ROCK	Coal seam, inferred
19	450m W	FAULT	Normal fault, inferred

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

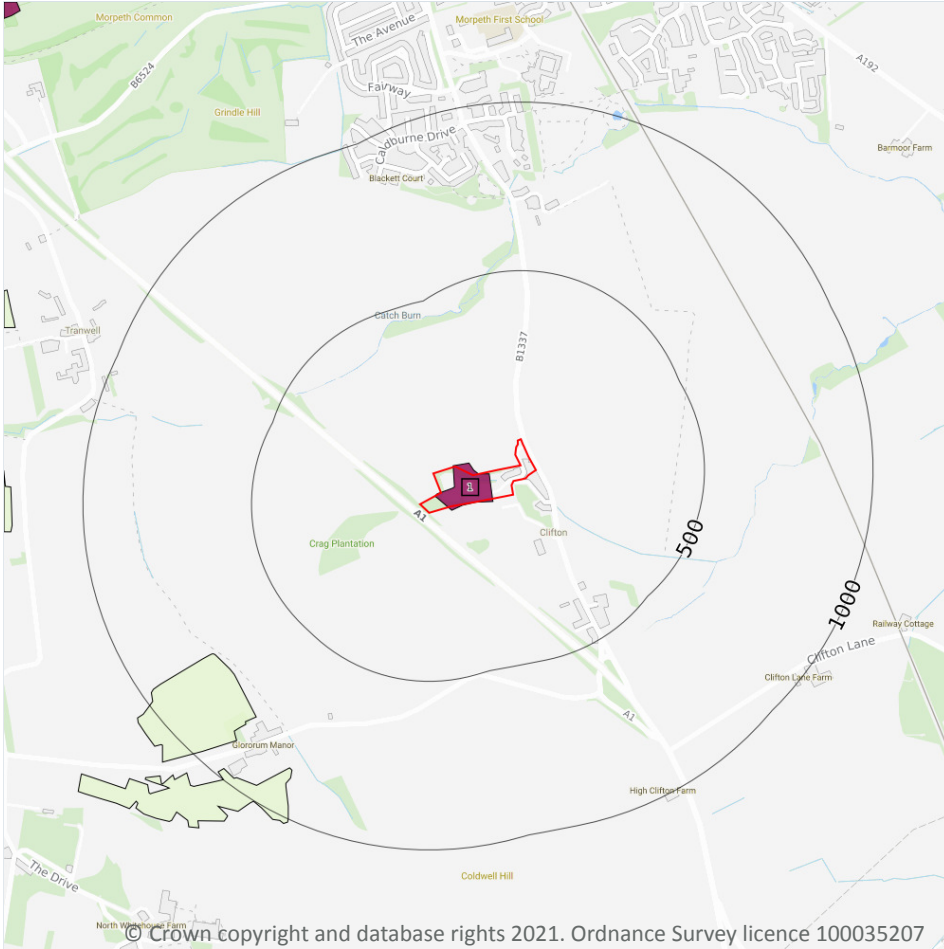
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 69**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW014_morpeth_v4

This data is sourced from the British Geological Survey.

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



— Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m

1

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability. Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 70**

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

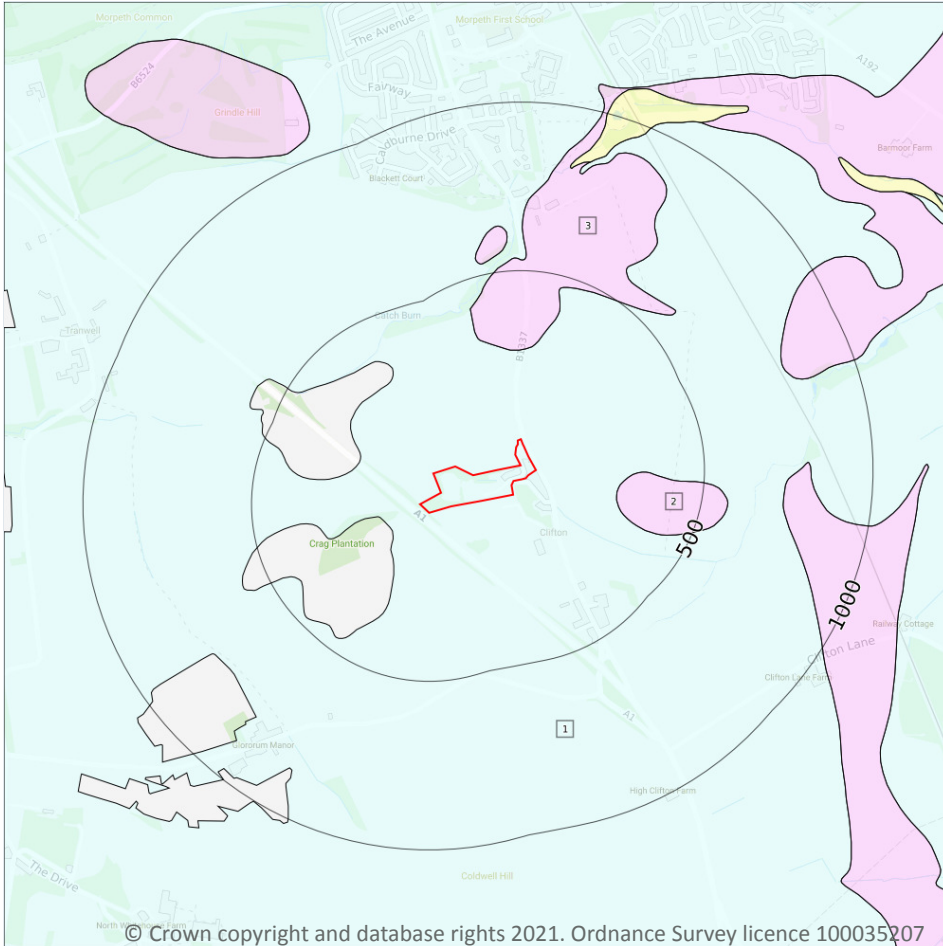
Records within 50m	2
---------------------------	----------

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

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

▣ Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 72**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	249m E	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVANSIAN	SAND AND GRAVEL
3	264m N	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVANSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m **2**

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

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

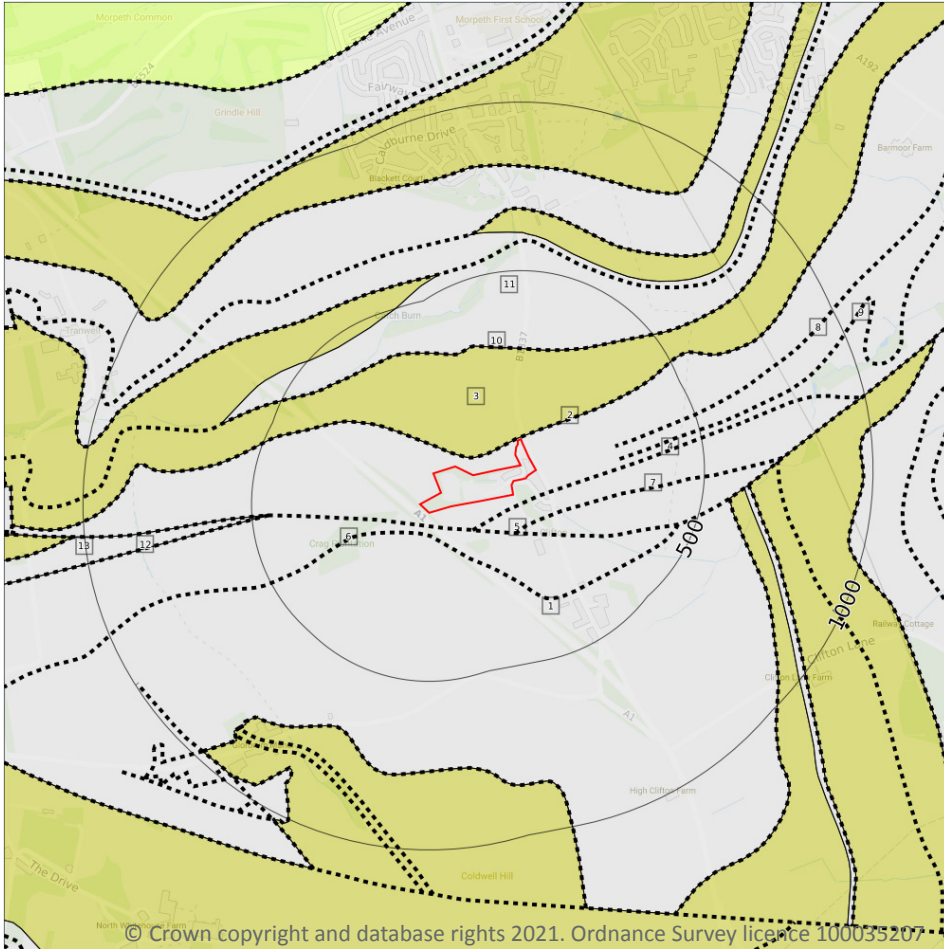
15.7 Landslip permeability (50k)

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

4

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 74**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	6m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
11	269m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	450m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	4
---------------------------	----------

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	High	Low
On site	Fracture	High	Low
6m NE	Fracture	High	Low
35m W	Fracture	High	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	9
----------------------------	----------

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.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 74**

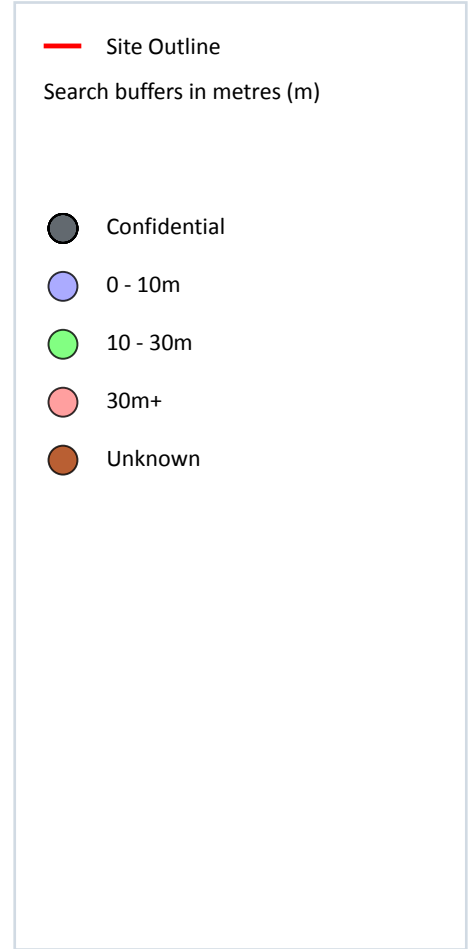
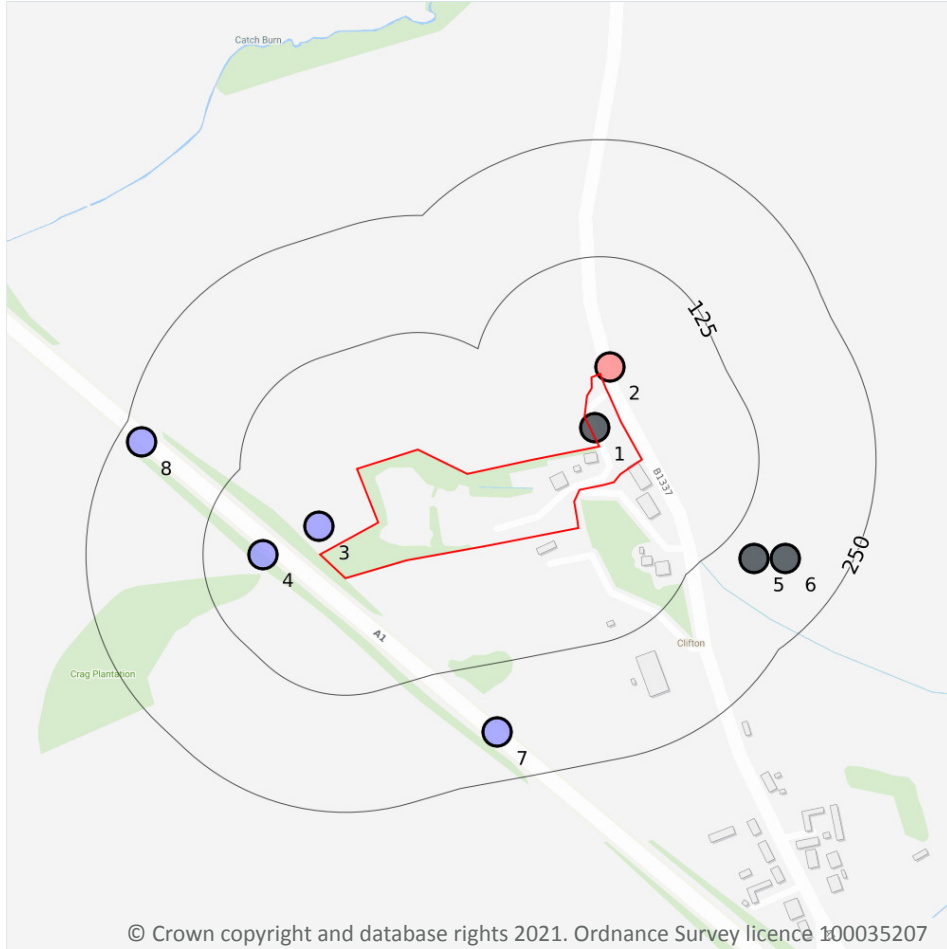
ID	Location	Category	Description
2	6m N	ROCK	Coal seam, inferred
4	35m SE	ROCK	Coal seam, inferred
5	40m S	FAULT	Fault, inferred, displacement unknown
6	66m S	ROCK	Coal seam, inferred
7	100m SE	ROCK	Coal seam, inferred

ID	Location	Category	Description
8	246m E	ROCK	Coal seam, inferred
9	251m E	ROCK	Coal seam, inferred
10	269m N	ROCK	Coal seam, inferred
12	450m W	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.



16 Boreholes



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16.1 BGS Boreholes

Records within 250m

8

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

Features are displayed on the Boreholes map on **page 77**

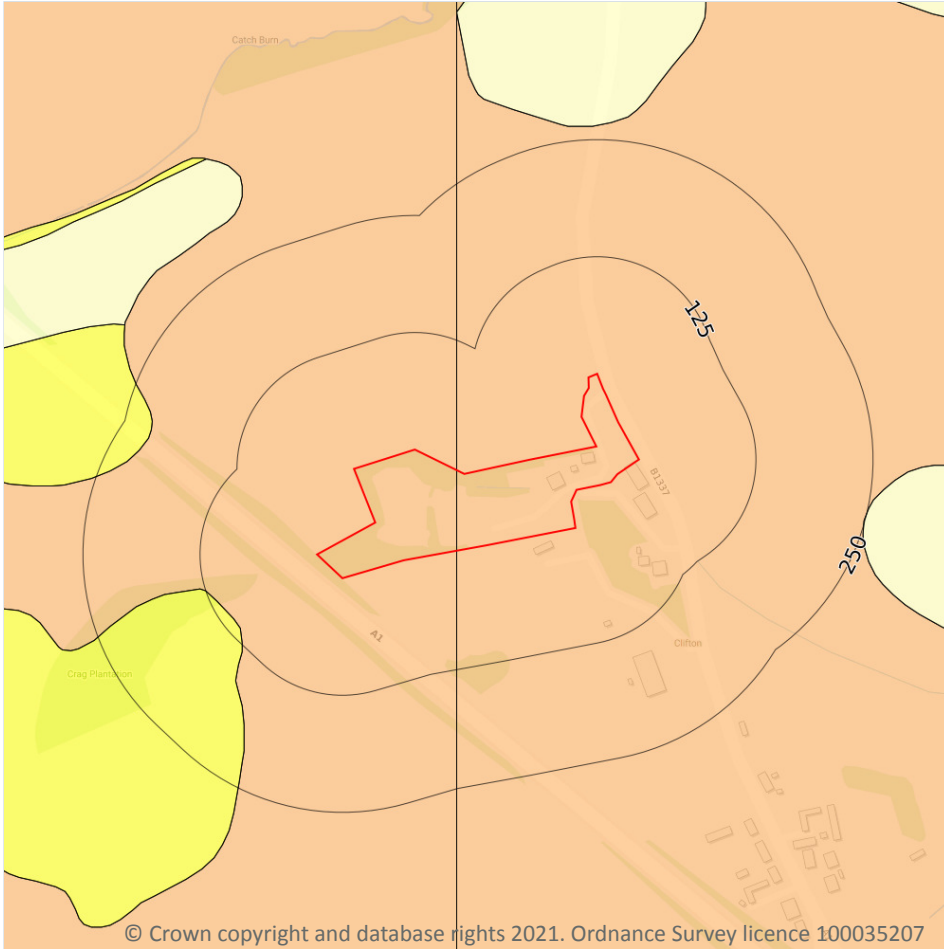
ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	420144 583235	UNNAMED SHAFT SITE ONLY	-	Y	N/A
2	12m NE	420160 583300	WEST CLIFTON COLLIERY 4	46.93	N	901452

ID	Location	Grid reference	Name	Length	Confidential	Web link
3	27m NW	419850 583130	A1 WEST OF MORPETH BYPASS 4A	1.52	N	734679
4	61m W	419790 583100	A1 WEST OF MORPETH BY-PASS 4	5.49	N	734678
5	159m SE	420314 583096	CATCHBURN COLLIERY	-	Y	N/A
6	186m SE	420348 583096	CATCHBURN COLLIERY	-	Y	N/A
7	198m S	420040 582910	A1 TRUNK ROAD MORPETH 3B	1.21	N	901531
8	226m NW	419660 583220	A1 WEST OF MORPETH BYPASS 5	1.22	N	734677

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

1

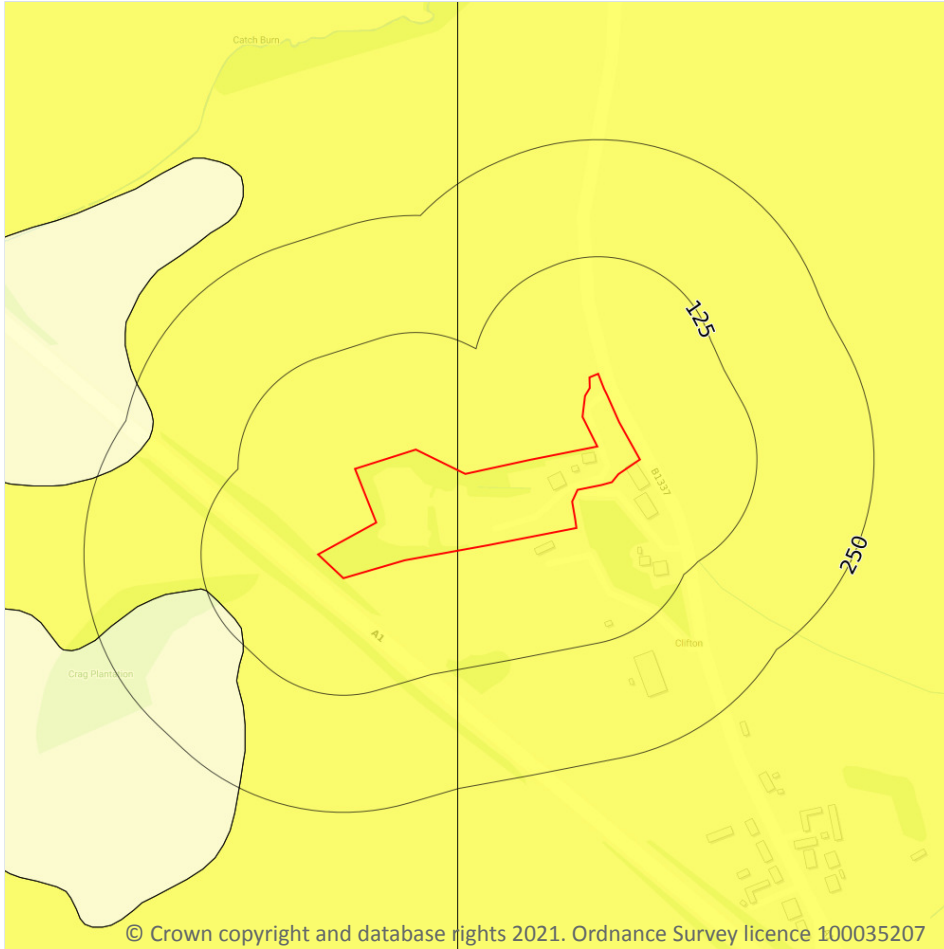
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

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

Location	Hazard rating	Details
On site	Low	Ground conditions predominantly medium 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

17.2 Running sands

Records within 50m

1

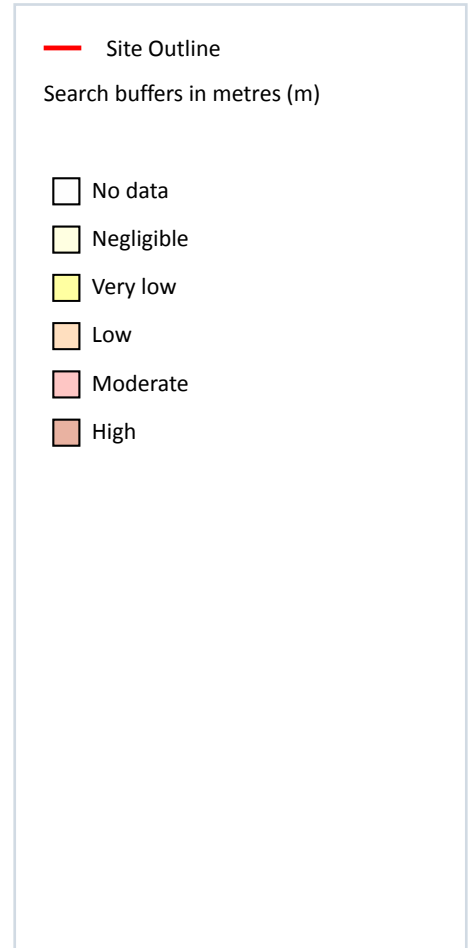
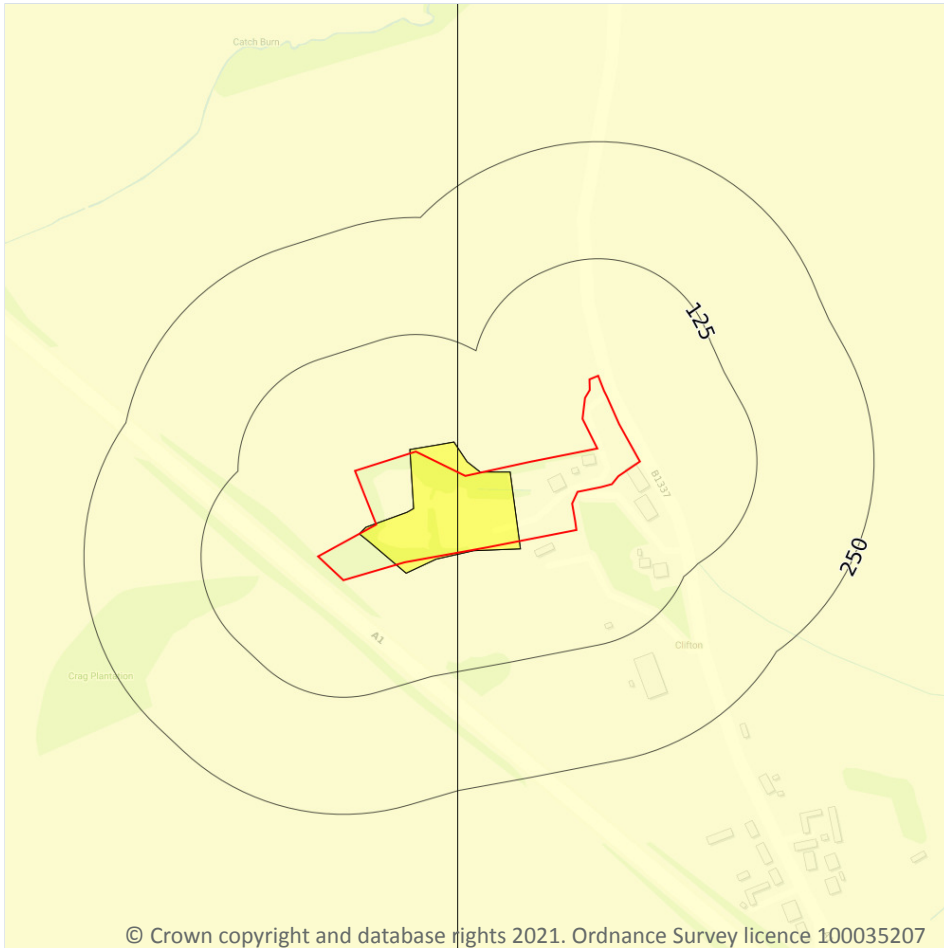
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

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

Location	Hazard rating	Details
On site	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



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17.3 Compressible deposits

Records within 50m

2

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

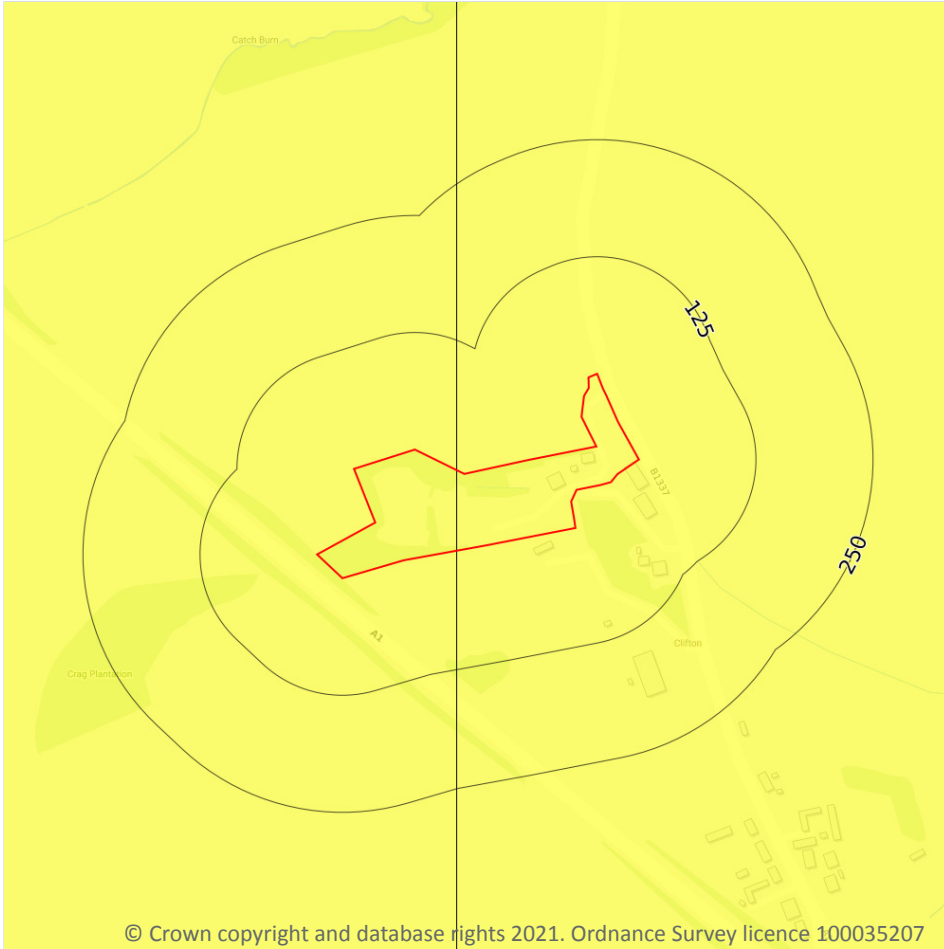
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 81**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

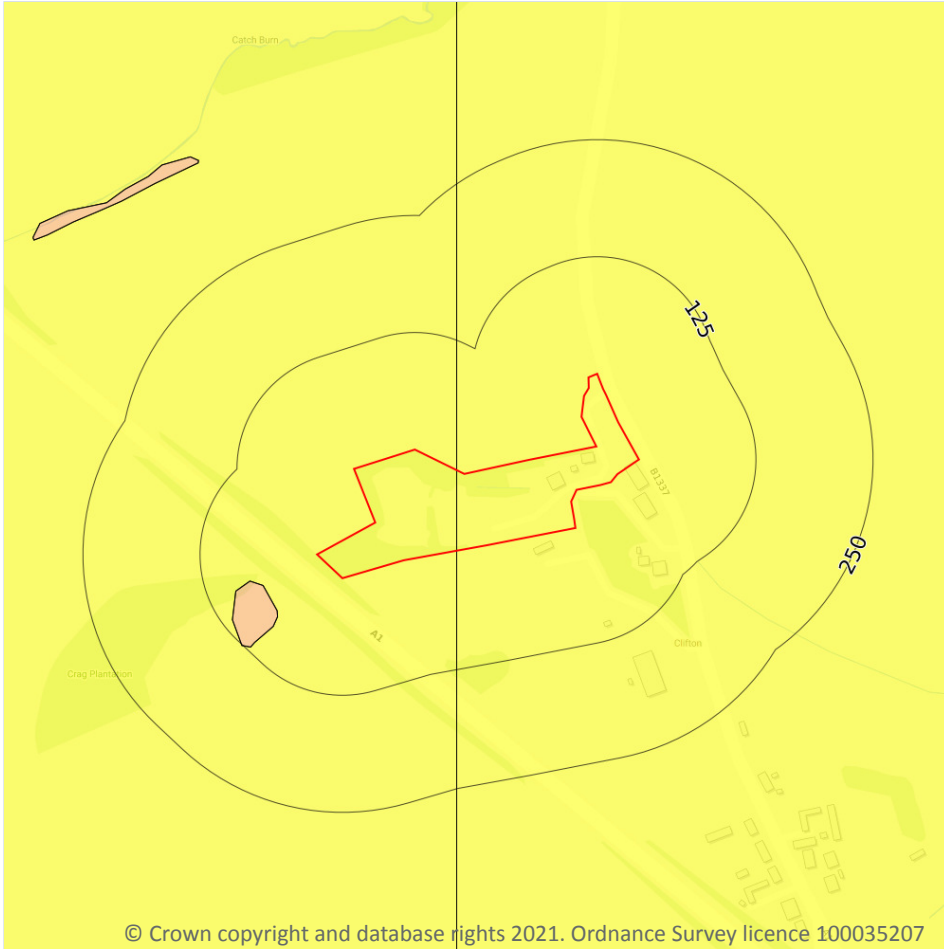
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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



17.5 Landslides

Records within 50m

1

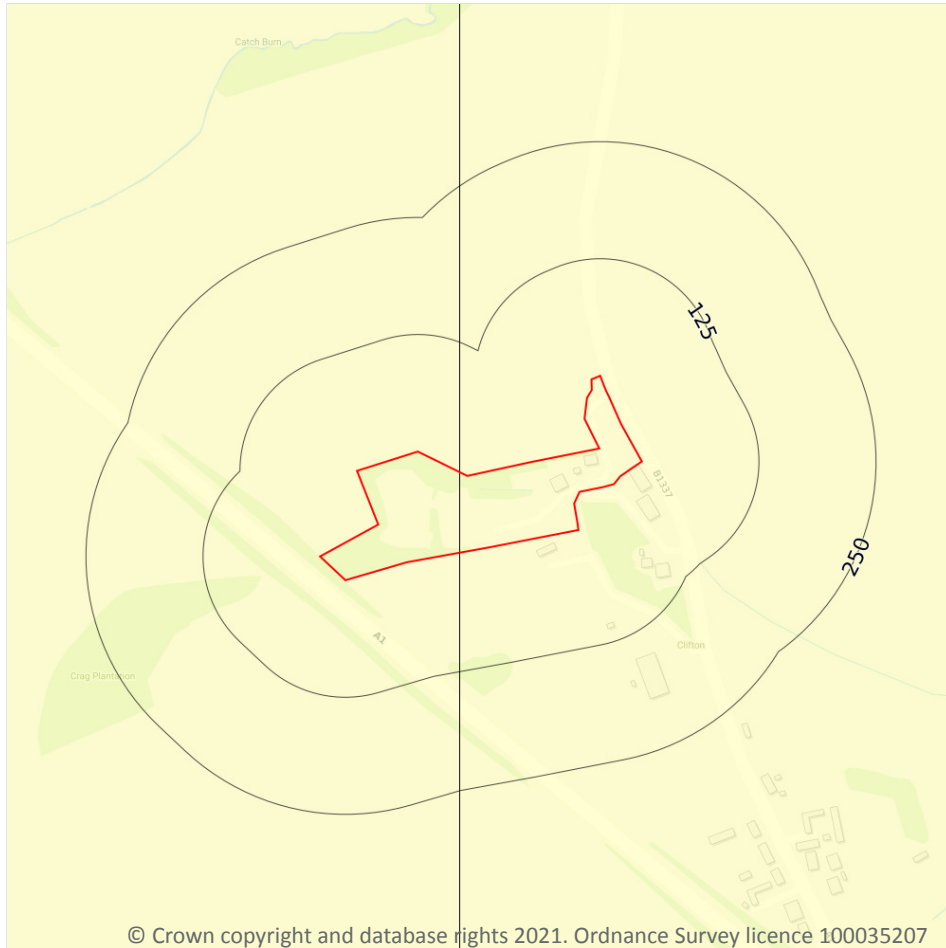
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 84**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

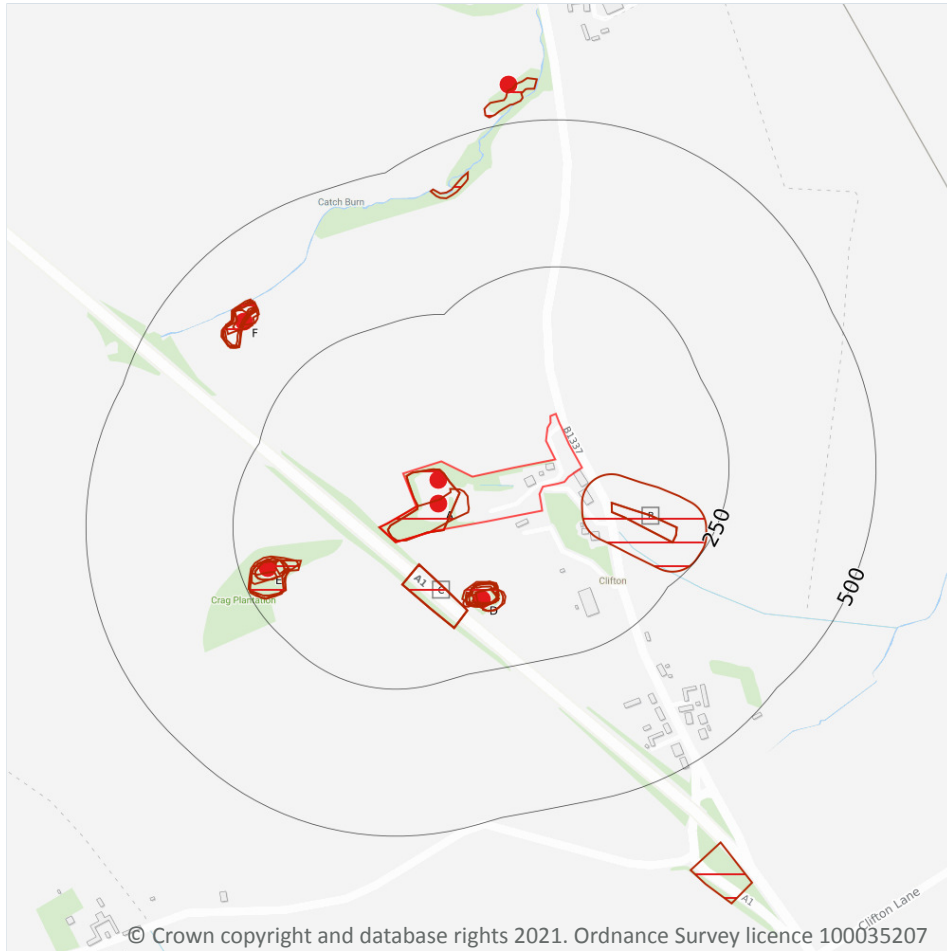
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 85**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



18.1 Natural cavities

Records within 500m

0

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

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

18.2 BritPits

Records within 500m
5

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 87**

ID	Location	Details	Description
A	On site	Name: West Clifton Colliery Address: Clifton, MORPETH, Northumberland Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
A	On site	Name: Clifton Drift Address: Clifton, MORPETH, Northumberland Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	128m S	Name: Clifton Crag Address: Clifton, BEDLINGTON, Northumberland Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	203m W	Name: Crag Plantation Address: MORPETH, Northumberland Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
F	374m NW	Name: Catchburn Address: MORPETH, Northumberland Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	24
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Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 87**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Heap	1992	1:10000
A	On site	Refuse Heap	1972	1:10560
A	On site	Unspecified Heap	1975	1:10000
B	29m SE	Colliery	1924	1:10560
C	47m S	Cuttings	1992	1:10000
C	47m S	Cuttings	1972	1:10560
C	47m S	Cuttings	1975	1:10000
B	78m SE	Colliery	1924	1:10560
B	78m SE	Colliery	1924	1:10560
D	98m S	Unspecified Old Quarry	1938	1:10560
D	101m S	Unspecified Old Quarry	1940	1:10560
D	102m S	Unspecified Old Quarry	1924	1:10560
D	103m S	Unspecified Old Quarry	1924	1:10560
D	103m S	Unspecified Old Quarry	1896	1:10560
D	106m S	Unspecified Quarry	1859	1:10560
D	114m S	Pond	1966	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
D	115m S	Pond	1982	1:10000
E	146m SW	Unspecified Old Quarry	1924	1:10560
E	152m SW	Unspecified Old Quarry	1938	1:10560
E	171m SW	Unspecified Old Quarry	1924	1:10560
E	171m SW	Unspecified Heap	1972	1:10560
E	176m W	Unspecified Disused Quarry	1992	1:10000
E	176m W	Unspecified Disused Quarry	1975	1:10000
E	195m SW	Unspecified Ground Workings	1972	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

4

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 87**

ID	Location	Land Use	Year of mapping	Mapping scale
-	799m W	Colliery	1938	1:10560
-	816m NW	Air Shaft	1938	1:10560
-	897m NW	Colliery	1924	1:10560
-	933m NW	Drift	1924	1:10560

This is 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 **1**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 87**

ID	Location	Mine Address	Mineral	Data source	Publisher
D	102m S	Clifton, Northumberland	Firestone, Freestone, Hearthstone , Honestone, Ragstone, Sandstone, Scythestone , Silver Sand, Whetstone	MINERIAL PLANNING RIGHTS APPLICATION RECORDS.	UNPUBLISHED

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 1

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

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site 0

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

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

18.11 Gypsum areas

Records on site 0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site 0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

18.13 Clay mining

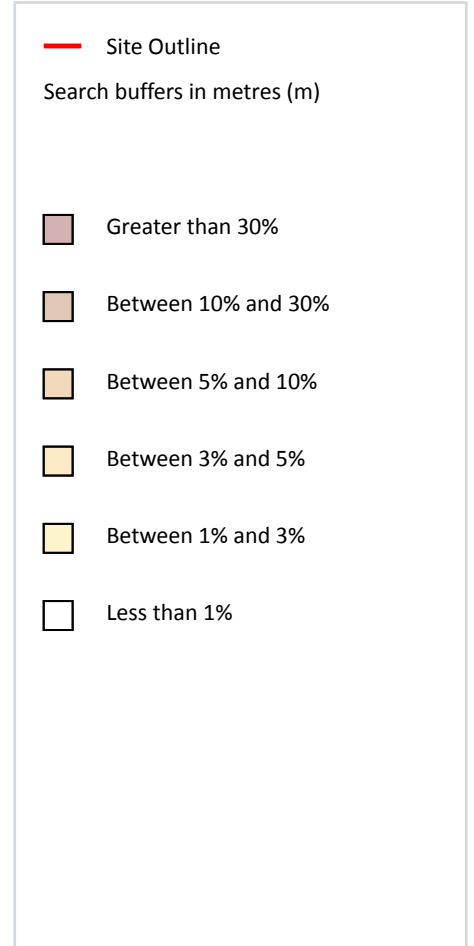
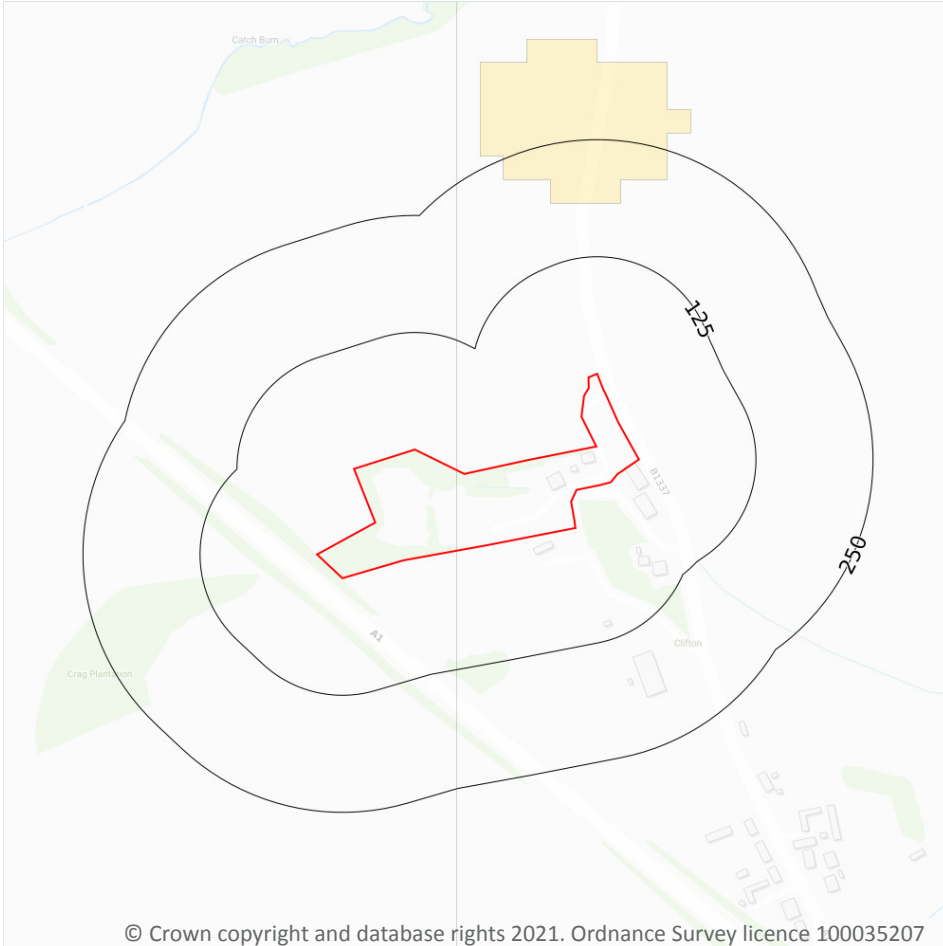
Records on site 0

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

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



19 Radon



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 93**

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

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

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

6

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	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
6m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
35m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
43m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

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

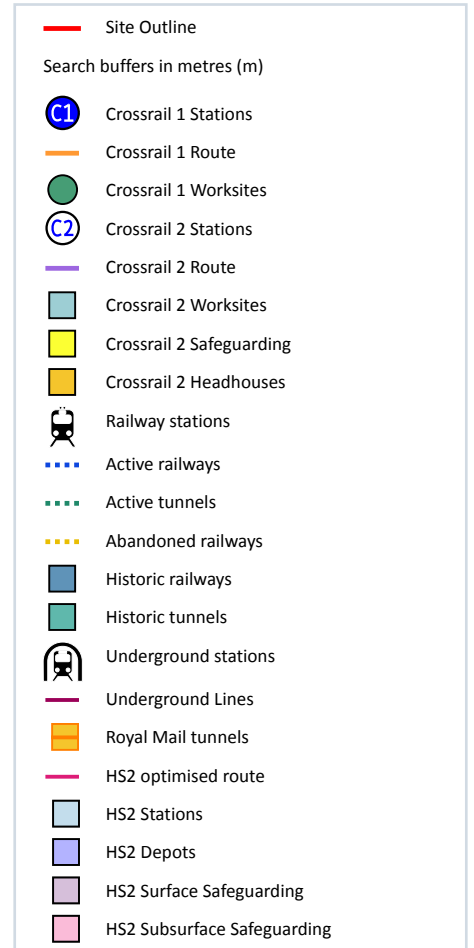
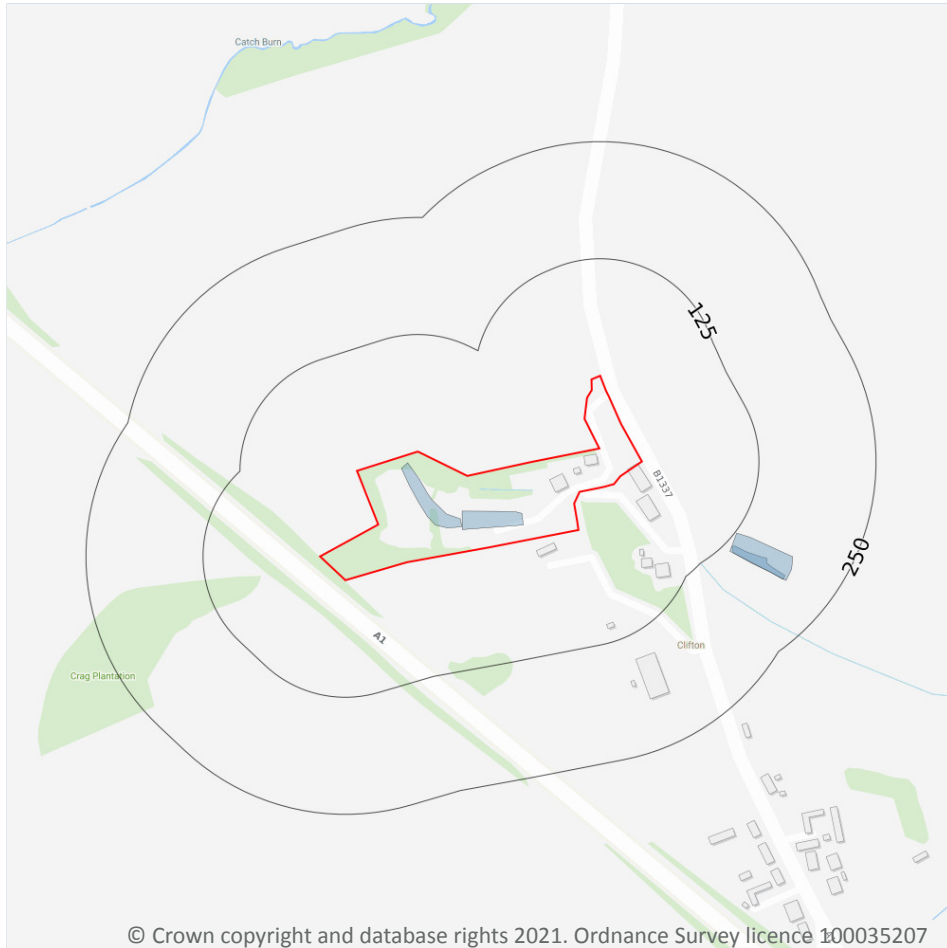
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The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

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	4
----------------------------	----------

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

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1972	10560
On site	Railway Sidings	1940	10560
127m SE	Railway Sidings	1924	10560
132m SE	Railway Sidings	1922	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

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

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

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



Appendix D – Coal Authority Report

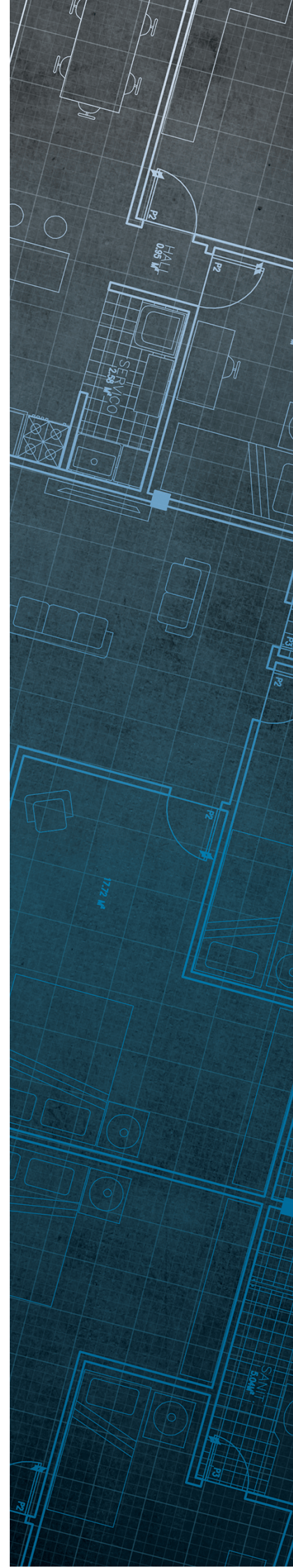


The Coal
Authority

Consultants Coal Mining Report

Clifton
Morpeth
Northumberland
NE61 6DG

Date of enquiry:	8 February 2021
Date enquiry received:	8 February 2021
Issue date:	8 February 2021
Our reference:	51002350133001
Your reference:	20004/AC/085



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

COAST CONSULTING ENGINEERS LTD

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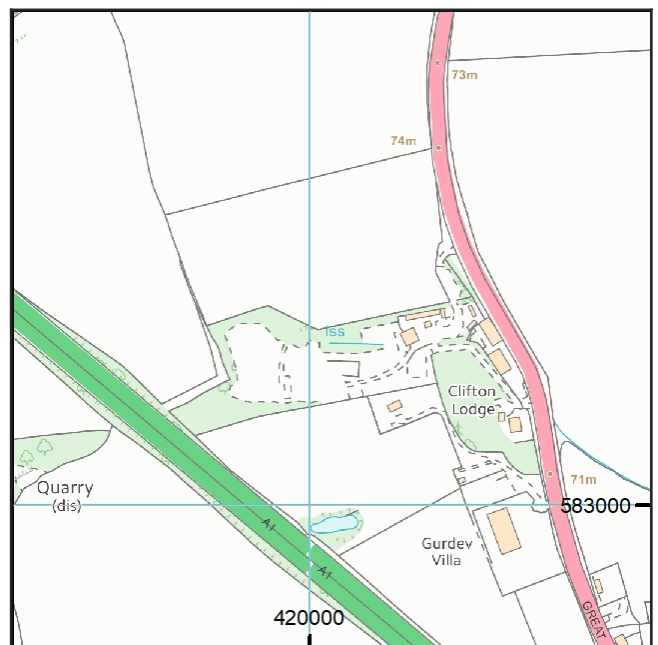
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	VICTORIA	Coal	55CG	22	Beneath Property	3.6	South-East	60	1947
unnamed	VICTORIA	Coal	55CH	30	Beneath Property	4.6	South-East	60	1947
WEST CLIFTON	VICTORIA	Coal	5LEO	39	Beneath Property	6.1	South	70	1947
WEST CLIFTON	VICTORIA	Coal	5LDO	40	Beneath Property	6.1	South	70	1947

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Adit	419583-005	419947 583194		Coal	
Shaft	419583-006	419974 583149	This mine entry has been filled to an unknown specification in 1947.	Coal	
Adit	420583-002	420149 583238	this mine entry has been filled to an unknown specification	Coal	
Adit	420583-003	420192 583103	this entry is covered with corrugated sheets and bricks and covered over with soil.	Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

14248	7353	6794
-------	------	------

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
BROCKWELL	Coal	Yes	11.5	North-West	57
BROCKWELL	Coal	Yes	21.7	North	110
THREE QUARTERS	Coal	Yes	Within	N/A	78

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

Please refer to the "Summary of findings" map (on separate sheet) for details of any opencast areas within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is in an area where notices to withdraw support were given in 1943 and 1946.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices






Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

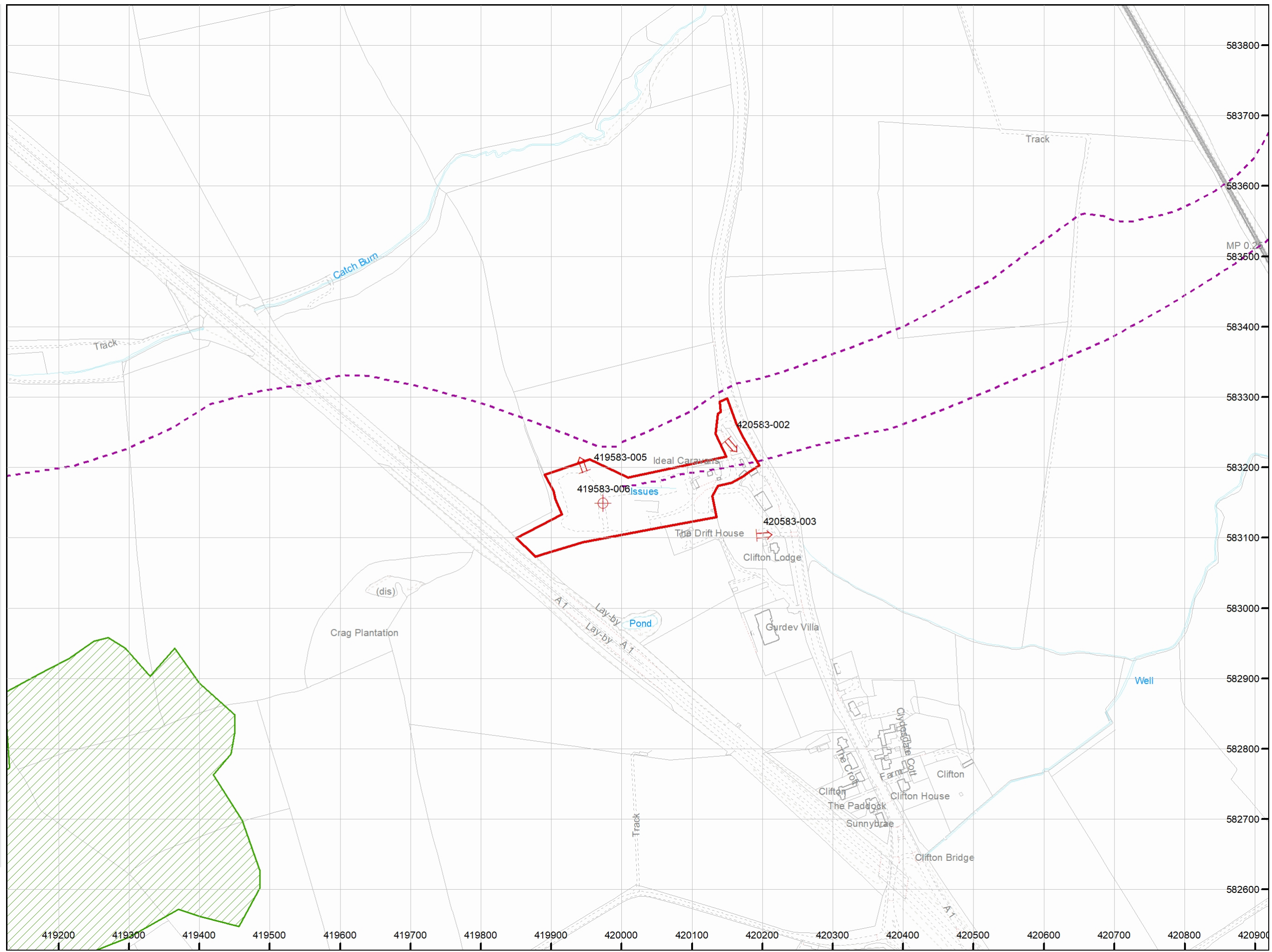
Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

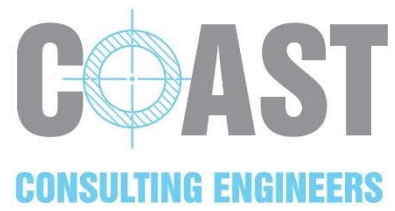
The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Disused adit 
- Outcrop (Conjectured) 
- Unlicensed opencast site 



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