

RWE

Lostrigg Solar EIA Scoping Report - Appendices

June 2024

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Appendix 7.1

June 2024



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LOSTRIGG SOLAR

PRELIMINARY ECOLOGICAL APPRAISAL

JUNE 2024

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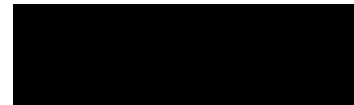
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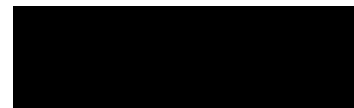
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CONTENTS

1	INTRODUCTION.....	1
1.1	Terms of Reference	1
1.2	Scope of Report	1
1.3	Site Context	2
1.4	Description of Development	2
1.5	National Planning Policy Framework (NPPF) and Local Planning Policy.....	3
2	METHODOLOGY	6
2.1	Desk Study.....	6
2.2	Extended UKHab Classification Survey	6
2.3	Evaluation and Assessment of Features	7
2.4	Nomenclature.....	8
2.5	Limitations / Deviations	8
2.6	Quality Assurance & Environmental Management	8
3	RESULTS AND EVALUATION	10
3.1	Statutory and Non-Statutory Designated Sites.....	10
3.2	Habitats	23
3.3	Species.....	24
4	DISCUSSION AND RECOMMENDATIONS	30
4.1	Sensitive Receptors	30
4.2	SPA/Ramsar (International/European)	30
4.3	Non-Statutory Conservation Sites.....	31
4.4	Habitats	31
4.5	Protected Species.....	32
4.6	General Recommendations.....	38
5	BIODIVERSITY ENHANCEMENTS	39
5.1	Biodiversity Enhancement	39
6	Conclusion.....	40
6.2	Report Validity.....	40
8	REFERENCES	41

APPENDICES

- Appendix 1 Legislation Summary
- Appendix 2 Hedgerow Descriptions
- Appendix 3 Ditch Descriptions

Appendix 4 Waterbody Descriptions

Appendix 5 Habitat Descriptions and Evaluation

DRAWINGS	TITLE	SCALE
LSF-SR07-0001	Figure 7.1 Site Location Plan	1:25,000@A4
LSF-SR07-0002	Figure 7.2 Non statutory Sites Results	1:50,000@A3
LSF-SR07-0003	Figure 7.3 Statutory Sites Results	1:50,000@A3
LSF-SR07-0004	Figure 7.4 Provisional Habitat Plan	1:7,500@A3
LSF-SR07-0005	Figure 7.5 Waterbody Location Plan	1:7,500@A3

EXECUTIVE SUMMARY

Wardell Armstrong LLP (WA) was commissioned by RWE to undertake a Preliminary Ecological Appraisal (PEA) in support of a proposed Lostrigg Solar Development and Battery Energy Storage Scheme (BESS).

The following conservation sites, habitats, and species (receptors) have been evaluated as being subject to potential adverse effects (constraints) in the absence of mitigation and/or further survey or assessment:¹:

- Statutory Designated Sites: Solway Firth Special Protection Area (SPA), Upper Solway flats and Marshes Ramsar, River Derwent & Bassenthwaite Lake SAC;
- Non-statutory Designated Sites: Local Wildlife Sites Lower Lostrigg Beck County Wildlife Site (CWS), Lostrigg Beck Special Invertebrate Site and Special Road Verges MP K3 (2);
- NERC² Section 41 (s.41) Hedgerows; Purple Moor-grass and rush pasture,
- Ditches, streams and waterbodies
- Badger;
- Bats;
- Great crested newt and other amphibians;
- Breeding and Wintering Birds
- Reptiles;
- Eurasian otter;
- Invertebrates;
- Protected Plants – petty whin and bluebell;
- Non-native Invasive species (Species listed on Section 9 of the Wildlife and Countryside Act 1981 (as amended)).

Additional assessments, surveys and pre-construction checks have been recommended as necessary to fully inform the planning application:

- Preliminary Ground Level Roost Assessments for bat roosts in trees;
- Activity surveys for bats;
- eDNA surveys for Great Crested Newt;
- Presence/absence surveys for reptiles
- Breeding bird surveys;
- Otter and Water vole survey;
- Invertebrate scoping survey and Butterfly surveys; and
- Pre-construction surveys for badger setts.

¹ Note: the Preliminary Ecological Appraisal Report provides an overview of likely effects and therefore may not be sufficient to support a planning application on its own. Specialist surveys may be required to fully investigate effects and/or to support an Ecological Impact Assessment (EclA).

² As defined under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006

Mitigation³ and compensation⁴ are discussed in section 4 of the report but include the following:

- Retention of all woodland compartments, River/streams and field boundaries and associated ditches.
- Retention and protection of all ponds where possible.
- Precautionary and sensitive working methods for reptiles in Areas 1,2,4 and 5.
- Vegetation clearance undertaken outside of the bird nesting season or following an inspection carried out within 48hrs by an appropriately qualified ecologist.
- Enhancement of retained habitats and compensation for unavoidable habitat loss, including 'like for like' compensation of high distinctiveness habitats. To ensure overall net gain >10%.
- Provision of a Construction Environmental Management Plan and Landscape Biodiversity Management Plan to ensure protective mitigation and habitat creation/enhancement measures.

In conclusion, given the identified evidence of presence and/or likely presence of ecological constraints, further surveys and/or assessments are required to inform a full evaluation of adverse effects. The results of further protected species surveys and evaluations should be considered within an Ecological Impact Assessment (EclA) report, in line with standard industry practice (CIEEM 2018, updated 2022). This report should include a formal assessment of impacts and will be suitable to fully inform the planning application.

This report is valid for 18 months from the date the habitat survey was undertaken.

³ Mitigation are measures required in order to reduce the severity and magnitude of identified effects to an acceptable level.

⁴ Compensation is required where effects cannot be fully mitigated.

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Wardell Armstrong LLP (WA) was commissioned by RWE to undertake a Preliminary Ecological Appraisal (PEA) in support of a proposed Lostrigg Solar and Battery Energy Storage Scheme. The project is located at Little Clifton, Cumberland, centred on approximate National Grid Reference (NGR) NY044 264, (refer to drawing number LSF-SR007-0001 Figure 7.1).

1.1.2 This report has been produced with reference to current guidelines for UK Habitat (UKHAB) Classification V2 (UKHab, 2023), Guidelines for Preliminary Ecological Appraisal (CIEEM 2017⁵) and Biodiversity – Code of Practice for Planning and Development (BSI 2013⁶).

1.2 Scope of Report

1.2.1 The purpose of the PEA is in broad terms to undertake the following:

- Identify and report to the project team the likely ecological constraints associated with a project, such that the site design can adequately take account of ecological features;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'⁷;
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

1.2.2 Certain species, habitats and nature conservation sites receive legislative protection which is detailed fully within Appendix 1. Other species/groups and habitats are notable due to their identification in national and/or local planning policy or via local records. An indicative assessment of potential adverse effects to such receptors is provided, although this is not a substitute for full EclA (CIEEM 2018) which may be

⁵ Chartered Institute of Ecology and Environmental Management (CIEEM 2017).

⁶ British Standard BS 42020:2013 (BSI 2013).

⁷ As defined in BS 42020:2013 (BSI 2013).

required to fully inform any subsequent planning application along with additional surveys and assessments.

- 1.2.3 Provisional mitigation and enhancement opportunities are also discussed, where appropriate.
- 1.2.4 Biodiversity Net Gain (BNG) requirements are briefly highlighted in this report although separate reports with parallel BNG assessments shall be provided. It is anticipated that such assessments will contribute towards an iterative design process and hence will need to be updated sequentially until a final BNG report or Biodiversity Gain Plan is provided to support the planning application. The mitigation, compensation and enhancement recommendations made in the final sections of this report may contribute towards the overall assessment of BNG but may be superseded by specific requirements arising from the BNG assessment process.

1.3 Site Context

- 1.3.1 The planning boundary encompasses a large area of land located to the east of the A595 to the south of Little Clifton. Within the planning boundary are five areas identified for solar panel installation (Area 1-Area 5)⁸. Refer to Drawing LSF-SR07-0001 Figure 7.1 Site Location. At the time of writing, the cable route options are not established, hence these option areas, defined as being all areas within the mapped planning application boundary.
- 1.3.2 The planning application area comprises a range of habitats comprising arable, grassland, woodland, hedgerows, scrub, rush pasture, ditches and streams covering approximately 225ha. The Lostrigg Beck runs through the application area but is excluded from the panel installation areas. The majority of the site boundaries within Areas 1-5 are demarcated by a post and wire fencing. The village settlements of Little Clifton and Winscales are located 380m north-east of the application boundary and 450m south-west respectively.

1.4 Description of Development

- 1.4.1 The proposed development is for a solar farm and associated infrastructure (access tracks, cables routes) and a Battery Energy Storage Scheme.

⁸ The PEA mapped all habitats within the solar panel installation areas only (refer to drawing LSF-SR07-0001-Figure 7.1) and excludes land outside of these areas.

1.5 National Planning Policy Framework (NPPF) and Local Planning Policy

- 1.5.1 The NPPF⁹ requires the Planning Authority to have a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan. In addition, the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity, including by establishing coherent ecological that are more resilient to current and future pressures.
- 1.5.2 Relevant current and emerging policies are summarised in Box 1, below and are discussed with regard to compliance in the final Discussion section of the report.

Policy	Relevance to assessment
National Planning Policy Framework (2023)	The NPPF requires the Planning Authority to have a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan.
National Policy Statement for Energy (EN-1) (2024)	This guidance sets out overarching government policy on the need for nationally significant infrastructure projects (NSIPs), how applications for energy infrastructure will be assessed and the way in which impacts, and mitigation will be judged.
National Policy Statement for Electricity Networks Infrastructure (EN-5) (2024)	This guidance sets out government policy on nationally significant electricity infrastructure projects (NSIPs).
National Policy Statement for Renewable Energy Infrastructure (EN-3) (2024)	This guidance sets out government policy on nationally significant renewable energy infrastructure projects (NSIPs).
The Environmental Improvement Plan (EIP) 2023	The plan sets out how the government will work with landowners, communities and business to deliver goals for improving the environment at interim targets.
Biodiversity 2020: A strategy for England’s Wildlife and Ecosystem Services (2020)	This strategy sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea, in relation to international and EU commitments.

⁹ <https://www.gov.uk/government/publications/national-planning-policy-framework--2> (last updated 20/07/2021).

<p>Allerdale Local Plan (adopted 2014) Policy S2: Sustainable Development Principles</p>	<p>Policy S2: Sustainable Development Principles ‘The Local Plan will promote sustainable development as a core principle running through the entire plan. All development within the Plan Area, regardless of scale or nature, will be assessed against this policy....’</p>
<p>Allerdale Local Plan (adopted 2014) Policy S19: Renewable Energy and Low Carbon Technologies</p>	<p>‘The Council will seek to promote and encourage the development of renewable and low carbon energy resources given the significant wider environmental, community and economic benefits. Proposals where impacts (either in isolation or cumulatively) are, or can be made acceptable will be permitted....’</p>
<p>Allerdale Local Plan (adopted 2014) Policy S33: Landscape</p>	<p>‘The landscape character and local distinctiveness of the Plan Area shall be protected, conserved and, wherever possible, enhanced...’</p>
<p>Allerdale Local Plan (adopted 2014) Policy S35: Protecting and Enhancing Biodiversity and Geodiversity</p>	<p>Conditions for biodiversity will be maintained and improved and important geodiversity assets will be protected. Nationally and internationally protected sites and species will be afforded the highest level of protection. A high priority is also given to the protection of locally identified biodiversity or ecologically valuable assets. The Council will seek positive improvements to the quality of the natural environment through sustainable development resulting in net gains for biodiversity across the Plan Area.</p> <p>Developments, projects and activities will be expected to:</p> <ul style="list-style-type: none"> a) Protect and enhance key ecological habitats and wildlife corridors and stepping stones including watercourses and wetlands; b) Maintain, and where appropriate enhance, conditions for priority habitats and species identified in the Cumbria and UK Biodiversity Action Plan Priority Species and habitats or the Cumbria Biodiversity Data Centre at Tullie House; c) Maintain and where appropriate enhance recognised geodiversity assets identified in the Local Geodiversity Action Plan for Cumbria; d) Protect soil and water resources in line with Policy S36; e) Contribute to Allerdale’s green infrastructure network in line with Policy S24; f) Protect existing trees, hedgerows and woodland (including ancient trees and hedgerows) that are considered important to the local community, contribute positively to the character of the area and/or are of a nature conservation value. <p>Development that present significant economic or social benefits for the local community may be permitted where the Council, in consultation with relevant partner organisations are satisfied that any necessary impacts can be mitigated or compensated through appropriate habitat creation, restoration or enhancement on site or elsewhere secured via</p>

	planning conditions, agreements or obligations. Where a development poses significant harm to an irreplaceable habitat which cannot be mitigated or compensated for, permission will be refused.
Allerdale Local Plan (adopted 2014) Policy S36: Air, Water and Soil Quality	The quality of air and water resources within the Plan Area will be protected and opportunities for enhancement will be pursued. Unless adequate mitigation measures can be secured, development...'

2 METHODOLOGY

2.1 Desk Study

2.1.1 The desk study was informed by review of existing available information provided by Cumbria Biodiversity Data Centre and from available internet-based resources for a 2km search radius from the application boundary. The search area was extended to 20km radius for Natura 2000 sites, 2km radius for all other statutory and non-statutory designated sites, as well as parcels of known ancient woodland (to include felled or replanted ancient woodland) and 2km from protected and notable species.

2.1.2 Ordnance Survey (OS) and satellite mapping was also used to gain contextual habitat information.

2.1.3 Specific information was sought for:

- Statutory designated sites¹⁰;
- Locally designated sites;
- Ancient woodland¹¹;
- Protected and priority species;
- Priority (s.41) Habitats and Species¹²;
- Local Biodiversity Action Plan (LBAP) priority habitats and species.

2.1.4 The ecological desk study was carried out by a competent Ecologist who is a full member of CIEEM, who has completed numerous ecological desk studies within the last 20 years.

2.2 Extended UKHab Classification Survey

2.2.1 WA carried out a UK Habitat Classification Survey (UKHab, 2023) of the Site on 9th, 10th, 17th and 18th of April 2024. The survey was carried out by experienced WA ecologists. The survey was completed by a full member of CIEEM, who has completed numerous ecological habitat surveys within the past 20 years.

¹⁰ Locations provided by MAGIC <http://magic.defra.gov.uk/MagicMap.aspx>

¹¹ As defined by Natural England in their Inventory of Ancient Woodlands
http://www.gis.naturalengland.org.uk/pubs/gis/tech_aw.htm

¹² As defined under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006.

- 2.2.2 The survey followed the ‘UK Habitat Classification Version 2’ (UKHab, 2023) methodology with each of the main habitats classified according to the relevant criteria including vegetation composition expressed according to the DAFOR¹³ system.
- 2.2.3 In addition to the mapping and description of habitats, the survey was ‘extended’ to include the incidental observations of protected and/or notable species and the potential for such species to occur on Site (and in the surrounding landscape where relevant) were also recorded onto secure digital media for mapping and data collection. The extended element of the survey was based on professional judgement.
- 2.2.4 Specific habitat features are mapped on Drawing Number LSF-SR07-0004- Figure 7.4) (UKHab Survey Results) with appropriate reference numbers identifying features of particular note. Waterbody Locations are provided separately on Drawing Number LSF SR07 0005-Figure 7.5)

2.3 Evaluation and Assessment of Features

- 2.3.1 Evaluation of the importance / likely importance of ecological features and the likelihood of impacts affecting important features was made, where possible, using professional judgement in accordance with published guidance (CIEEM 2017).
- 2.3.2 Protected and s.41 species were evaluated in order to identify potential adverse effects in Table 2, based on the following criteria:
- Desk study records;
 - Evidence found during the survey;
 - Presence, extent, quality and viability of suitable on-site habitat;
 - Ecological connectivity to viable off-site habitats; and
 - Perceived impacts of habitat loss/impact to individuals in relation to proposals.
- 2.3.3 A ‘traffic light’ system is used in Tables 1, 2 and 3 to highlight potential constraints and opportunities whereby:
- **Green**: No constraint or limited constraint unlikely to be of planning and/or legal significance.

¹³ D = dominant, A = abundant, F = frequent, O = occasional, R = Rare

- **Amber:** Potential constraints which require further survey and/or mitigation and may be of planning and/or legal significance depending on the outcome of further survey/assessment.
- **Red:** Constraints which have already been identified by the PEA survey/desk-based assessment and are likely to be of planning and/or legal significance.

2.4 Nomenclature

2.4.1 Vascular plant names follow ‘*New Flora of the British Isles*’ (Stace 2019) with vernacular names as provided in the Botanical Society of the British Isles website (BSBI, 2013)¹⁴. All other flora and fauna names following the National Biodiversity Network (NBN) Atlas (NBN Atlas Partnership, 2021). The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

2.5 Limitations / Deviations

2.5.1 Ecological surveys are limited by factors that affect the presence of plants and animals such as time of year, weather, migration patterns and behaviour. The survey was undertaken in April (which is within the optimum recommended survey period for habitat surveys (April to August)) and therefore represents a valid sample of ecological evidence present on that date/season. The report is not designed, nor is it required to present a complete inventory of flora/fauna.

2.5.2 The absence of desk study records is not relied upon to determine absence of a particular species/habitat. Often, the absence of records is a result of under-recording within the given search area and as such the experience of the ecologist concerned together with a range of additional factors, in particular the presence/absence of potentially supporting habitat; is used to infer likely presence/absence of ecological receptors.

2.6 Quality Assurance & Environmental Management

2.6.1 The surveys and assessments have been overseen by and the report checked and verified by a full member of CIEEM, who is bound by its code of professional conduct. All surveys and assessments have been undertaken with reference to the

¹⁴ <http://rbg-web2.rbge.org.uk/BSBI/intro.php>

recommendations given in British Standard BS 42020, and as stated within specialist guidance, as appropriate and referenced separately.

3 RESULTS AND EVALUATION

3.1 Statutory and Non-Statutory Designated Sites

- 3.1.1 Desk study results for designated sites are evaluated in Table 1, below and are shown on drawing number LSF-SR07-0002 Figure 7.2 (Statutory Sites) and LSF-SR07-0003 Figure 7.3 (Non-Statutory Sites).
- 3.1.2 Designated sites which are considered potentially sensitive to the development proposals by virtue of their supported species or habitat assemblages, the distance/ecological connectivity to the Site and the nature of the perceived impacts are discussed in detail in the final sections of the report.
- 3.1.3 Designations for which potential adverse effects are not anticipated are excluded from further assessment.

Site Name and Status ¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
River Derwent & Bassenthwaite Lake SAC	120m east (and 10 km to the Lake).	<p>The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:</p> <ul style="list-style-type: none"> • Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoeto-Nanojuncetea</i>. (Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels) • Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation. (Rivers with floating vegetation often dominated by water-crowfoot) <p>The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:</p> <ul style="list-style-type: none"> • Atlantic salmon <i>Salmo salar</i> • Brook lamprey <i>Lampetra planeri</i> • Floating water-plantain <i>Luronium natans</i> • Marsh fritillary butterfly <i>Euphydryas (Eurodryas, Hypodryas) aurinia</i> 	<p>The site is located wholly outside the designated area. (all infrastructure will be at least 120m distant). The proposed application area is connected to the SAC via the Lostrigg Beck which flows into the River Marron. There may be indirect adverse effects through sediment release and incidental pollution during construction/decommissioning in the absence of mitigation.</p>

¹⁵ SPA – Specially Protected Area, SAC – Special Area for Conservation, Ramsar – site designated under the Ramsar Convention, SSSI – Site of Special Scientific Interest, NNR – National Nature Reserve, LNR – Local Nature Reserve.

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		<ul style="list-style-type: none"> • Otter <i>Lutra lutra</i> River lamprey <i>Lampetra fluviatilis</i>	
North Pennines and Dale Meadows SAC	5.8km east	The site encompasses the range of variation exhibited by Mountain hay meadows in the UK and contains the major part of the remaining UK resource of this habitat type. A wide range of rare and local meadow species are contained within the meadows, including globeflower <i>Trollius europaeus</i> , the lady's-mantles <i>Alchemilla acutiloba</i> , <i>A. monticola</i> and <i>A. subcrenata</i> , and spignel <i>Meum athamanticum</i> .	The site is located wholly outside the designated area. (all infrastructure will be at least 5.8km distant). The proposed development land is separated from the site by major barriers such as A roads, small towns and villages. Given the nature of the solar development, no direct or indirect effects are anticipated as a result of the proposed development.
River Ehen SAC	8.5km south	The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II: <ul style="list-style-type: none"> • Freshwater pearl mussel <i>Margaritifera margaritifera</i> • Atlantic salmon <i>Salmo salar</i> 	The site is located wholly outside the designated area and is at least 8.5km distant. Given the distance from site, the separation by major barriers and the nature of the proposed development, no direct or indirect impacts are considered likely.
Lake District High Fells SAC	10.5km east	The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I: <ul style="list-style-type: none"> • Alkaline fens. (Calcium-rich spring water-fed fens) • Alpine and Boreal heaths. (Alpine and subalpine heaths) • Blanket bogs 	The site is located wholly outside of the designated area and at least 10km distant. Given the separation from site no direct or indirect effects are considered likely.

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		<ul style="list-style-type: none"> • Calcareous rocky slopes with chasmophytic vegetation. (Plants in crevices in base-rich rocks) • European dry heaths • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels. (tall herb communities) • <i>Juniperus communis</i> formations on heaths or calcareous grasslands. (Juniper on heaths or calcareous grasslands) • Northern Atlantic wet heaths with <i>Erica tetralix</i>. (Wet heathland with cross-leaved heath) • Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles. (Western acidic oak woodland) • Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>. (Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels) • Siliceous alpine and boreal grasslands. (Montane acid grasslands) 	

Table 1: Designated Sites Evaluation

Site Name and Status ¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		<ul style="list-style-type: none"> Siliceous rocky slopes with chasmophytic vegetation. (Plants in crevices on acid rocks) Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>). (Acidic scree) Species-rich <i>Nardus</i> grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe). (Species-rich grassland with mat-grass in upland areas) <p>The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II: Slender green feather-moss <i>Drepanocladus (Hamatocaulis) vernicosus</i></p>	
Clints Quarry SAC	12km northeast	The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts a large population of great crested newt <i>Triturus cristatus</i> .	Given that the site is located at least 12km distant and is separated by major barriers to dispersal no direct or indirect impacts are considered likely.
Solway Firth SAC	16.7km north	<p>The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:</p> <ul style="list-style-type: none"> Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) Estuaries 	The site is located wholly outside of the designated area and at least 16.7km distant. Given the separation from site, the lack of hydrological connections and taking into account the nature of the proposed development, no direct or indirect effects are considered likely.

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		<ul style="list-style-type: none"> Fixed dunes with herbaceous vegetation (grey dunes). (Dune grassland) Mudflats and sandflats not covered by seawater at low tide. (Intertidal mudflats and sandflats) Perennial vegetation of stony banks. (Coastal shingle vegetation outside the reach of waves) Reefs Salicornia and other annuals colonising mud and sand. (Glasswort and other annuals colonising mud and sand) Sandbanks which are slightly covered by sea water all the time. (Subtidal sandbanks) <p>The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:</p> <ul style="list-style-type: none"> River lamprey <i>Lampetra fluviatilis</i> Sea lamprey <i>Petromyzon marinus</i> 	
Solway Firth SPA	3.4km west	The site qualifies under Article 4.1 by supporting internationally or nationally important wintering populations of three Annex 1 species: whooper swan <i>Cygnus cygnus</i> , barnacle geese <i>Branta leucopsis</i> and golden plover <i>Pluvialis apricaria</i> . The Upper Solway	The site is located wholly outside the designated area and is 3.4km distant to the west. However, the site may be used by qualifying species (waterbirds) during winter periods. If the site is considered to be functionally linked land the development may result in a negative effect on qualifying species.

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		<p>Flats and Marshes qualifies under Article 4.2 as a Wetland of International Importance, by regularly supporting over 20,000 water birds.</p> <p>It also qualifies under Article 4.2 by regularly supporting internationally important wintering populations of eight migratory waterfowl species (pink-footed geese <i>Anser brachyrhynchus</i>, pintail <i>Anas acuta</i>, scaup <i>Aythya marila</i>, oystercatcher <i>Haematopus ostalegus</i>, knot <i>Calidris canutus</i>, bar-tailed godwit <i>Limosa lapponica</i>, curlew <i>Numenius Arquata</i> and red shank <i>Tringa tetanus</i>, as well as nationally important wintering populations of eight other species.</p> <p>The Upper Solway Flats and Marshes also support important assemblages of breeding bird's characteristic of saltmarshes, and wintering birds typical of estuarine habitats</p>	
Upper Solway Flats and Marshes Ramsar	16.7km north	<p>The whole estuarine complex is a site of national and international importance for wintering wildfowl and wading birds including the entire Svalbard breeding population of the goose <i>Branta leucopsis</i> and is a vital link in a chain of west coast estuaries used by migrating birds. The site is also noted for its populations of breeding birds, natterjack toad <i>Bufo calamita</i> and invertebrates. Qualifying species (as identified at designation) with peak counts in winter include Pink-</p>	<p>The site is located wholly outside the designated area by a considerable distance (c.16km). However, the site supports suitable over wintering habitat for qualifying species (waterbirds). If the site is considered to be functionally linked land the development may result in a negative effect on qualifying species.</p>

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		<p>footed goose, <i>Anser brachyrhynchus</i>, <i>Barnacle goose</i>, <i>Branta leucopsis</i>, Svalbard, Northern pintail <i>Anas acuta</i>, Red knot <i>Calidris canutus islandica</i>, Dunlin <i>Calidris alpina</i>, Bar-tailed godwit, <i>Limosa lapponica</i>, Eurasian curlew, <i>Numenius arquata</i>, Common redshank <i>Tringa tetanus</i>. Species with peak counts in spring include: ringed plover <i>Charadrius hiaticula</i>.</p>	
River Derwent and Tributaries SSSI	120m east and beyond.	<p>The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:</p> <ul style="list-style-type: none"> Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoeto-Nanojuncetea</i>. (Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels) Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation. (Rivers with floating vegetation often dominated by water-crowfoot) <p>The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:</p> <ul style="list-style-type: none"> Atlantic salmon <i>Salmo salar</i> 	<p>The River Derwent and tributaries SSSI is located wholly outside the 120m to the east of the proposed working area, so no direct impacts are anticipated). The proposed application area is connected to the SAC via the Lostrigg Beck which flows into the River Derwent via the River Marron. There may be indirect adverse effects through sediment release and incidental pollution during construction/decommissioning in the absence of mitigation.</p>

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		<ul style="list-style-type: none"> • Brook lamprey <i>Lampetra planeri</i> • Floating water-plantain <i>Luronium natans</i> • Marsh fritillary butterfly <i>Euphydryas (Eurodryas, Hypodryas) aurinia</i> • Otter <i>Lutra lutra</i> <p>River lamprey <i>Lampetra fluviatilis</i></p>	
Lower Lostrigg Beck (CWS)	Within the Draft Order Limits	One of the least disturbed river communities in the area, with neutral grassland, scrub and woodland. Species include great burnet <i>Sanguisorba officinalis</i> , oxeye daisy <i>Leucanthemum vulgare</i> , common spotted orchid <i>Dactylorhiza fuchsii</i> , betony <i>Stachys officinalis</i> , reed canary grass <i>Phalaris arundinacea</i> , marsh woundwort <i>Stachys palustris</i> and skullcap <i>Scutellaria galericulata</i> .	The Lostrigg Beck corridor runs immediately adjacent to parts of the site specifically Area 1, 2 and 3. The River corridor and a minimum 10m buffer shall be retained and fenced accordingly, so no direct impacts shall occur. Indirect effects such as pollution from sediment run off may occur without appropriate mitigation resulting in an adverse effect.
Oily Johnnies Willow Patch (CWS)	0m west. (Immediately adjacent to the Draft Order Limits)	Extensive area of willow scrub <i>Salix viminalis</i> , <i>Salix pentandra</i> and hybrids). Grassland has marsh valerian, devil's-bit scabious, meadowsweet and Sphagnum spp.	The application site lies wholly outside the designated area but immediately adjacent to the main road access route included within the redline boundary. Although the site is connected via open fields, the site is not hydrologically linked. The main access route is already in existence so no impacts above and beyond what currently exist are anticipated. No direct or indirect impacts are considered likely.
River Marron at Little Clifton (CWS)	0.4km east	A variety of habitats including woodland, scrub and neutral grassland. Species include oxeye daisy <i>Leucanthemum vulgare</i> , yellow rattle <i>Rhinanthus minor</i> and saw-wort <i>Serratula tinctoria</i> . This site	The sites wholly outside the designated site and is at least 0.4m distant. Given the distance from site, the northerly flow and taking into account the nature of the proposed development, no direct or indirect impacts are considered likely.

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
		straddles the River Eden and Tributaries Site of Special Scientific Interest (SSSI)	
Wythenmoor (CWS)	0.4km	The site is a wet woodland of the National Vegetation Classification (NVC) type W3 bay willow - bottle sedge <i>Salix pentandra</i> - <i>Carex rostrata</i> . The woodland comprises a mix of very wet areas with standing water and swamp vegetation, and drier patches where purple moor grass and ferns dominate the flora. The wettest areas are dominated by mature grey willow <i>Salix cinerea</i> ; beneath the trees, the flora comprises abundant bottle sedge with frequent common valerian <i>Valeriana officinalis</i> , wild angelica <i>Angelica sylvestris</i> , and marsh bedstraw <i>Galium palustre</i> . Species that are occasional include water mint <i>Mentha aquatica</i> , ragged robin <i>Lychnis flos-cuculi</i> , marsh marigold <i>Caltha palustris</i> , and star sedge <i>Carex echinata</i> . Bog moss <i>Sphagnum</i> sp. is occasional to locally frequent within these wet areas.	The site lies wholly outside the designated area by at least 0.4km. No direct impacts shall occur. Given the distance from site and the separation by the Braithwaite minor road, no indirect impacts are considered likely.
Broomy Hill (CWS)	0.5km	Wet grassland with soft (<i>Juncus effusus</i>), jointed <i>Juncus articulatus</i> , sharp flowered rush <i>Juncus acutiflorus</i> , valerian <i>Valeriana officinalis</i> and wild angelica.	The site lies wholly outside the designated area all infrastructure will be at least 0.5km distant). Although the site is connected via open fields, the site is not hydrologically linked. No direct or indirect impacts are considered likely given the separation from site.
Old Railway (River Maron) (CWS)	0.1km	Areas of species rich grassland with yellow rattle, ladies' mantle <i>Alchemilla</i> sp., great burnet <i>Sanguisorba</i>	No direct impacts shall occur as the site is located outside of the designated area. Given the distance from site it is unlikely given the

Table 1: Designated Sites Evaluation				
Site Name and Status¹⁵		Distance and direction from Site	Reason for Designation/identification	Potential Constraints
			<i>officinalis</i> , valerian <i>Valeriana officinalis</i> and common spotted orchid.	nature of the solar development that there shall be any indirect impacts as a result of the proposed development.
Smithybanks (CWS)	Wood	7km east	The site is situated at an altitude of 60m above sea level. Part of the site is listed in the Cumbria Ancient Woodland Inventory. The flat part of the site directly adjacent to the river is wet woodland, Alder/Willow carr of the National Vegetation Classification (NVC) type W7 alder-ash-yellow pimpernel <i>Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum</i> grading into M28 yellow flag--meadowsweet <i>Iris pseudacorus-Filipendula ulmaria</i> mire in the more open parts the wood. The steeper slope on the eastern side of the site is drier and supports oak woodland of the NVC type W10e pedunculate oak-bracken-bramble <i>Quercus robur-Pteridium aquilinum-Rubus fruticosus</i> , sub community <i>Acer pseudoplatanus-Oxalis acetosella</i> .	No direct impacts shall occur as the site is located at least 7km from the site. No indirect effects are considered likely as the site is not hydrologically connected. No negative effects as a result of the proposed development are considered likely.
Corney (CWS)	Flat Marsh	1.km east	A 3.5 ha field with species rich marshy grassland and species rich unimproved neutral grassland. Grey willow <i>Salix cinerea</i> is scattered throughout.	
Alcan (CWS)	Wildlife Area	1.km south-west	An industrial site located north of Distington. The site supports a mosaic of species -rich grassland, semi-improved grassland and scrub. There are also several ponds on the site which support a population of breeding palmate newts	

Table 1: Designated Sites Evaluation			
Site Name and Status¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
Marshy Grassland (Stainburn) (CWS)	1.4km	Species include rush species (<i>Juncus</i> spp), horsetail <i>Equisetum</i> sp., spike-rush, yellow rattle, with angelica and bittersweet <i>Solanum dulcamara</i> in the ditches.	
Disused Railway Bridgefoot (CWS)	1.5km	A disused railway line with gill woodland. Species include common spotted orchid (<i>Dactylorhiza fuchsii</i>), wild angelica, pignut <i>Conopodium majus</i> , perforate <i>Hypericum perforatum</i> , square stalked and slender St John's Wort. Meadow areas have yellow rattle, lady's mantle, meadowsweet, yarrow and greater bird's-foot trefoil <i>Lotus pedunculatus</i> .	
Hollins Wood (Branthwaite) (CWS)	1.3km	Woodland dominated by birch <i>Betula pendula</i> , alder <i>Alnus glutinosa</i> and ash <i>Fraxinus excelsior</i> .	
Lostrigg Beck Site of Invertebrate Significance	450m	No information available	No direct impacts shall occur to the Lostrigg Beck. It shall be retained in full with a minimum 10m buffer. Indirect effects may occur as a result of pollution (sediment run-off) without appropriate mitigation.
Special Roadside Verge - MP K3 (2)	10m	No information available	Located adjacent to a potential access route into site. Without appropriate mitigation the site may be subject to direct impacts and compaction from construction vehicles.
Special Roadside Verge - MP K3 (4)	0.9km	No information available	These road verges are located sufficiently distant from site and away from any associated impacts. No negative effects are considered likely as a result of the proposed development.
Special Roadside Verge - MP K3 (3)	1km	No information available	
Special Roadside Verge – MP K1 (1)	1.2km	No information available	

Table 1: Designated Sites Evaluation

Site Name and Status ¹⁵	Distance and direction from Site	Reason for Designation/identification	Potential Constraints
Struthers Wood Ancient Woodland	1.2km	Ancient and semi-natural replanted woodland	All ancient woodland habitats are located wholly outside the application boundary for the proposed development; therefore, no direct impacts shall occur. Given the distance from site and the nature of the proposed development (minimal construction activities), no indirect impacts such as dust deposition are considered likely.
Station Wood Ancient Woodland	1.7km	No information available	
Coldfitz Wood Ancient Woodland	1.7km	No information available	
Branthwaite Edge Wood/Jackie Planting Ancient Woodland	2.0km	The site is marked on the Ancient Woodland inventory as ancient semi-natural Broad-leaved woodland. This is one of the largest areas of semi-natural woodland in West Cumbria. At the top of the hill slope there is a degraded mire. The woodland has a mixed canopy, silver birch is the most frequent species which dominates the canopy in places, along with frequent sessile oak <i>Quercus petraea</i> and rowan <i>Sorbus aucuparia</i> . The shrub layer is well developed in places with frequent hazel <i>Corylus avellana</i> , bramble <i>Rubus fruticosus agg.</i> and honeysuckle <i>Lonicera periclymenum</i> , holly <i>Ilex aquifolium</i> is occasional	
High Wood Ancient Woodland	2.0km	No information available	

3.1.4 The search area is extended to allow for the inclusion of Impact Risk Zones (IRZs) for SSSIs, SPA and RAMSAR¹⁶. IRZs define areas around SSSIs, SPA and RAMSAR which could be impacted by development schemes. The zones vary depending on the particular sensitivities of the features for which the designated sites are notified and indicate the types of development proposal which could potentially have adverse impacts. The desk study shows that the application site falls within an IRZ, with the following development proposals considered likely to adversely affect the SSSI, SPA and SACs as identified within Table 1 above: Wind & Solar Energy Solar schemes with footprint > 0.5ha and all wind turbines.

3.2 Habitats

3.2.1 All habitats within the Site are described and evaluated in Appendix 5, together with an indication of their s.41 status and status and reference within the Cumbria Local BAP¹⁷.

3.2.2 Habitats which could be subject to adverse effects (amber or red) are discussed in the latter sections of the report. Habitats for which potential adverse effects are not anticipated are excluded from further assessment. The location and extent of habitats are shown on Drawing Number LSF-SR07-0004 Figures 7.4 (UKHab Survey Results).

3.2.3 A review of OS data has identified 14 waterbodies within 250m of the Site, as shown on Drawing Number LSF-SR07-0005 Figure 7.5 (Waterbody Location Plan).

3.2.4 In general terms the site is dominated by sheep grazed pasture (modified grassland), with some arable land, stands of less intensively managed grassland, especially in the central parts of the site, conifer plantations and semi-natural woodland blocks and hedgerows. The Lostrigg Beck is a dominant component, running south - north through the site, its confluence with the River Marron is some 2Km to the north at Bridgefoot. The River Marron is itself a tributary of the River Derwent.

Area 1: Habitats within this area are predominantly modified grassland divided by a network of mature relic hedgerows on hedge banks and associated ditches. Less common habitats include arable, wet flushes and a waterbodies. Lostrigg Beck is located beyond the eastern boundary.

¹⁶ <https://data.gov.uk/dataset/sssi-impact-risk-zones>

¹⁷ [Microsoft Word - 2009 species review justification.doc \(cumbriawildlifetrust.org.uk\)](#)

Area 2: Habitats within Area 2 are predominantly modified grassland divided by a network of mature hedgerows on hedge banks and associated ditches. Less common habitats include neutral grassland, acid grassland and waterbodies. Lostrigg Beck is located beyond the western boundary.

Area 3: This habitat includes a number of fields and plantation woodlands centered around Stargill Farm. The land immediately surrounding the farmhouse will not be developed and is excluded from the site. The character is dominated by cattle and sheep grazed pasture, the latter being species poor modified grassland and the cattle grazed areas including rush pasture and purple moor grass pasture, which is relatively species rich. Lostrigg Beck meanders through the middle of this Area, the banks of the stream are fenced off and hence the naturalistic margins and profiles are maintained in the absence of livestock poaching. This Area is subject to a Countryside Stewardship agreement including management which is beneficial for marsh fritillary and its larval foodplant devil's-bit scabious.

Area 4: Habitats within Area 4 are predominantly sheep and horse modified grassland divided by a network of mature defunct hedgerows and associated ditches. A small area of neutral *Holcus juncus* and *Dechampsia* grassland is also present. The XX brook flows west to east through the centre of the site. The site is immediately adjacent to a conifer and broadleaved woodland.

Area 5: Area 5 is the smallest land parcel comprising two modified grassland fields. Hedgerows, scrub and a line of trees bounds the site and conifer plantation lies immediately adjacent.

3.3 Species

3.3.1 Protected and s.41 species are evaluated in order to identify potential adverse effects in Table 3 below, based on the following criteria:

- Desk study records;
- Evidence found during the survey;
- Presence, extent, quality, and viability of supporting on-site habitat;
- Ecological connectivity to viable off-site habitats; and
- Perceived impacts of habitat loss/impact to individuals in relation to proposals.

3.3.2 Species for which adverse effects are predicted (amber or red) are discussed in more detail in the Discussion and Recommendations section. Species/taxa for which

potential adverse effects are not anticipated (green) are excluded from further assessment.

Table 3: Protected and Notable Species Evaluation

Receptor (species/taxa)	Desk Study records	Status ¹⁸	Evaluation	Supporting Habitat(s)Present	Potential Constraints
Badger <i>Meles meles</i>	✓ ¹⁹ historical records only	BA	Site	One badger sett was recorded on the edge of a planation woodland within Area 3. A further sett was recorded outside the survey area of Area 4 within approximately 30m of the site. Foraging habitat in the form of grazed pasture and plantation woodland.	All setts shall be retained and shall not be directly impacted by proposed works. Habitats across the site are suitable for sett creation. Potential foraging habitat may be impacted by the proposed works.
Bats <i>Chiroptera</i>	Pipistrelle <i>Pipistrellus</i> spp Soprano Pipistrelle <i>Pipistrellus pygmaeus</i> Noctule <i>Nyctalus noctula</i>	EPS, WCA, s.41,	Site	Suitable roosting habitat is present within mature trees across site, that are present in peripheral woodland, trees within hedgerows and a few trees located centrally within fields. Due to the exposed nature of open grassland habitats foraging is likely to be restricted to linear peripheral boundaries and internal boundaries.	Moderate quality foraging habitat but restricted peripheral boundaries/field boundaries and the Lostrigg Beck. Most linear field boundaries and peripheral habitats shall be retained with a suitable 5 or 10m buffer. It is likely that trees located centrally within the fields may be lost to the development.
Birds	A wide range of BoCC and Red List species and WCA Schedule listed species including: Common gull Common redpoll Curlew Greater black-backed gull Grey partridge Hen harrier Herring gull Lesser black-backed gull Merlin Peregrine	s.41, WCA BoCC	Site-Regional	Foraging and breeding habitat in habitats on site. Specifically, within peripheral hedgerows and woodland boundaries and open grassland and rush pastures. The site is of specific interest for over wintering Hen Harrier which use tussocky grassland such as the purple moor grass and rush pasture habitat, as well as having suitable supporting overwintering habitat for wildfowl and waders such as golden plover	Potential breeding habitat may be lost/disturbed by proposals. Foraging habitat may also be lost.

¹⁸ **EPS** – European Protected Species, **WCA** – Wildlife and Countryside Act, **WCA (9)** – species listed under Schedule 9, **A1** – Annex 1 (Birds Directive), **BA** – Protection of Badgers Act, **s.41** – species listed under section 41 of the NERC Act as species of principal importance, **BoCC** – Birds of Conservation Concern.

¹⁹ Locations of badger activity are confidential due to the sensitivity of this species.

Table 3: Protected and Notable Species Evaluation					
Receptor (species/taxa)	Desk Study records	Status¹⁸	Evaluation	Supporting Habitat(s)Present	Potential Constraints
	Red bunting Short-eared owl Skylark Song thrush Starling Tree sparrow Yellowhammer				
Brown hare <i>Lepus europaeus</i>	✓	s.41	Site	This species favours open expanses of pastoral farmland.	Habitats on site shall be available for use by brown hare during and post development. No adverse effect is considered likely.
European hedgehog <i>Erinaceus europaeus</i>	✓	s.41	Site	Hedgerows and scrub.	All linear hedgerows and woodland shall be retained and enhanced as part of the development proposals. Adverse effects as a result of the proposed development are considered unlikely.
Great crested newt <i>Triturus cristatus</i>	✓	EPS, WCA, s.41	Site	Ponds and terrestrial habitat are located on site that is suitable for use by GCN.	The majority of waterbodies on site are located in peripheral habitat or offsite and will therefore be retained. However, some waterbodies on site may be lost to facilitate development.
Common toad <i>Bufo bufo</i>	✓	s.41	Site	Suitable habitat exists on site within grasslands and ditches	The majority of breeding habitat within ponds and ditches shall be retained, however, there may be some loss of potential breeding habitat. The majority of grassland foraging habitat will be available for use during and throughout the durations of the development.
Common Reptiles	X Historical records of common Lizard and slow worm	WCA, s.41	Site	Rush pasture grassland, scrub stream/ditch habitats and woodland edge provide suitable habitat.	In the absence of mitigation, the clearance of suitable habitats is likely to result in incidental harm to reptiles.
Hazel dormouse <i>Muscardinus avellanarius</i>	x	EPS, WCA, s.41		Suitable habitat for dormouse is present within the site however, no known records of Dormouse are present within this area of Cumbria. atlas.	No records of dormouse have been supplied within the desk study data and no known dormouse relocations are provided on the NBN Atlas. Dormouse have been re-introduced on the border of Lancashire and Cumbria

Table 3: Protected and Notable Species Evaluation					
Receptor (species/taxa)	Desk Study records	Status ¹⁸	Evaluation	Supporting Habitat(s)Present	Potential Constraints
					but that is significantly distant from site. Species is likely to be absent.
Invertebrates (Protected and notable species)	Marshy fritillary (Butterfly) Small pearled bordered Fritillary Wall (Butterfly) Small heath (Butterfly) White letter-hairstreak (Butterfly) Shaded broad bar (moth) <i>Hilara cornicula</i> (True fly) <i>Lonchoptera nigrociliata</i> (True fly) <i>Tetanocera punctifrons</i> (True fly)	WCA s.41	County	Supporting habitat for these butterflies is present with rush pasture grasslands on site. Elms present within the hedgerows may also provide suitable habitat for white letter hair-streak.	The placement of solar arrays on rush pasture fields and removal of elms species may result in a loss of habitat for these species.
Otter <i>Lutra lutra</i>	✓	EPS, WCA, s.41	County	Lostrigg Beck and ditches on site provide suitable habitat for Otter.	The Lostrigg Beck corridor and all ditches/streams shall be retained with a 10 m buffer. No direct loss shall occur as a result of the proposed development. Indirect effects through pollution may occur without appropriate mitigation.
Water vole <i>Arvicola amphibia</i>	x	WCA, s.41	Site	Ditches and streams are considered to be suitable but poor due to the overshadowing by hedgerows and scrub and poaching of margins.	No records of water vole have been provided by the data search. However, all watercourses (ditches/streams) are to be retained with an appropriate 5m buffer. No direct negative effects are considered likely.
White-clawed crayfish <i>Austropotamobius pallipes</i>	x	EPS, WCA, s.41	n/a	The Lostrigg Beck	No records of crayfish have been provided by the Desk study data and no records are present on the NBN Atlas. Although the Lostrigg Beck which provides suitable habitat shall be retained with a minimum 10m buffer. Based on the lack of records within the area White Clawed Crayfish are considered to be absent.
Protected and notable plant species	Yes – vascular plant species recorded within 2km of the Site including but not limited to:	WCA, s.41	Local	Bluebell is present within the groundflora of woodlands and hedgerows.	Suitable supporting habitat may be impacted by proposed development, resulting in a negative impact.

Table 3: Protected and Notable Species Evaluation

Receptor (species/taxa)	Desk Study records	Status ¹⁸	Evaluation	Supporting Habitat(s)Present	Potential Constraints
	<ul style="list-style-type: none"> Bluebell (<i>Hyacinthoides non-scripta</i>) Petty Whin <i>Genista anglica</i> (Historical record) 			Suitable habitat is present for Petty whin within rush pasture habitats and grassland areas within the central part of the site (Area 3).	
Non-native invasive species (INNS)	Japanese Knotweed <i>Fallopia japonica</i> Himalayan Balsam <i>Impatiens glandulifera</i> Japanese rose <i>Rosa Rugosa</i>	WCA (9)		No invasive species were recorded on site however, suitable habitat is present on site where species as identified by the desk study may grow.	No invasive species were recorded on site during surveys. However, invasive species are present within the 2km radius of the site. Development works may cause invasives to spread if present on site.

4 DISCUSSION AND RECOMMENDATIONS

4.1 Sensitive Receptors

4.1.1 The following conservation sites, habitats, and species (receptors) have been evaluated as being subject to potential adverse effects and hence can be constraints to the proposals:

- Statutory Conservation Sites;
- Non-statutory Conservation Sites;
- s.41 Habitats (Hedgerows, streams/ditches, purple moor-grass and rush pasture, waterbodies and mature trees)
- Protected Species (Badgers, Bats, Great Crested Newts, Reptiles, Otter, Invertebrates);
- S.41 species (common toad, Invertebrates);
- Breeding Birds (Schedule 1 species Hen harrier, and Red and Amber BoCC)
- Protected plant species (Petty whin and Bluebell)

4.1.2 The nature of potential effects, requirements for further surveys and proposed mitigation/compensation are discussed below for each of the identified receptors.

4.2 SPA/Ramsar (International/European)

4.2.1 The Solway Firth SPA and Upper Solway Flats and Marshes RAMSAR are located 4.9km and 17.5km from site respectively.

4.2.2 Further survey shall be undertaken to assess both the breeding and wintering bird assemblages on Site and whether the site supports qualifying species. With an assessment made as to whether the sites are considered to be functionally linked land. A Habitat Regulations Assessment (HRA) may be required to assess the likely significant effects of the development on these International/European designations.

4.2.3 The River Derwent and Bassenthwaite Lake SAC and the River Derwent and tributaries SSSI is located within 120m and is connected to site via the Lostrigg Beck and the River Marron. No direct impacts shall occur but indirect effects through sediment deposition may occur through construction and during decommission without appropriate mitigation and pollution prevention controls.

4.3 Non-Statutory Conservation Sites

- 4.3.1 The Lostrigg Beck (CWS) and Special Roadside Verge MPK3 (2) are located within and immediately adjacent from the application boundaries (respectively). No direct impacts shall occur to Lostrigg Beck CWS as the site is located outside the development area. The Lostrigg Beck river corridor which is located within the application boundary shall be retained with an appropriate buffer. However, indirect effects may occur as a result of pollution run-off during site preparation/clearance works/decommissioning works. The buffer may reduce likelihood of dust and pollution runoff and maintain a safe wildlife corridor.
- 4.3.2 It is recommended that appropriate pollution prevention measures are implemented during the construction and operational phases of the development where required to prevent pollution events that may affect the river. Mitigation should be incorporated into a Construction and Environmental Management Plan (CEMP).
- 4.3.3 The Special Road Verge MPK3 (2) may be subject to direct impacts without appropriate mitigation. The road verge location is within close proximity to a potential access route into site. The road verge should be protected with appropriate fencing to ensure that direct impacts caused by construction machinery, site vehicles or to ensure the area is not used for storage of materials.
- 4.3.4 Mitigation to protect the road verge should be incorporated into the biodiversity CEMP.

4.4 Habitats

Hedgerows, Streams/ditches, Purple moor-grass and rush pasture, Poor acid grassland

- 4.4.1 There are over 100 hedgerows across Areas 1-5. All hedgerows are s.41 priority habitats of principle importance and shall be retained where feasibly possible. In the event that minor losses occur, like for like as a minimum will be required to compensate for any losses.
- 4.4.2 Many opportunities exist for enhancing existing hedgerows and the majority are defunct and gappy. Any enhancements or compensatory habitats should be native species of local provenance. Management of hedgerows should be undertaken to provide a health structure and to maximise fruiting opportunities for the benefit of wildlife.
- 4.4.3 No direct impacts shall occur to streams and ditches, as they shall be retained on site with an appropriate buffer; 10m minimum from the Lostrigg Beck and 5m from internal boundary features. Indirect impacts from pollution (sediment run-off) may

occur with appropriate mitigation. The nature of the development and the methods of solar farm construction are unlikely to result in significant run-off but as a precaution, Guidance of Pollution Prevention²⁰ which replaces the Pollution Prevention Guidelines (Environment Agency) to reduce run-off during periods of high rainfall should be adopted and incorporated into the Biodiversity CEMP.

- 4.4.4 Purple moor-grass and rush pasture as found within Area 3 is a s.41 Priority Habitat of principle importance. Where possible this habitat should be retained. This habitat currently forms part of a higher-level stewardship agreement and is managed by low level cattle grazing for the benefit of Marsh Fritillary that have been part of a release programme in the local vicinity (exact location unknown).
- 4.4.5 In the event that this habitat cannot be excluded from development, areas of compensation habitat that provides a direct replacement for this specific purple moor-grass and rush pasture habitat that is as a minimum the same size (and possibly a significantly a larger area) will be required to ensure no loss of Biodiversity occurs.
- 4.4.6 Small areas of acid grassland are present on site within area 2 and Area 3. These areas of acid grassland are species poor and minimal in size. In isolation these habitats are of low value but as a mosaic feature with adjacent habitats they have greater value. Losses of grassland habitat shall be accounted for within the BNG metric and compensated for accordingly.

4.5 Protected Species

Badger

- 4.5.1 One 2-hole outlying badger sett has been recorded within Area 3. This sett although active, is located within an area of woodland which is to be retained. The tunnel of the sett is located the far side of a drain bank going away from the proposed works. If a 15m buffer is retained around the woodland habitat, no direct or indirect effects to the sett are anticipated.
- 4.5.2 A potential main sett has been located outside of the site boundary of Area 4 on the edge of woodland habitat. However, it falls within the wider application boundary. It is recommended that a minimum 30m buffer be retained around the sett and all cable routes and associated infrastructure is designed to avoid the buffer zone.

²⁰ <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/>

- 4.5.3 Given the nature of the proposed solar development, access to foraging habitat should be retained and available throughout the duration of the development and post construction upon completion and operation. If the site is to be fenced the fencing design needs to accommodate key access routes specifically within areas 3 and 4 where badger setts have been recorded. This may be through the use of badger gates in security fencing or ensuring a gap is retained at the base of the fence line (this will depend on the design of the fence used). If a security fence line is used a detailed re-survey should be undertaken to inform the location of access points along key foraging routes.
- 4.5.4 Through the duration of construction, to ensure mammals are not entrapped, open trenches should be covered over night or left with a sloping elevation to one side to allow entrapped animals to escape.
- 4.5.5 Given the suitability of habitats across the site a pre-commencement survey should be undertaken prior to works commencing to ensure no new setts are present within 30m of the construction areas.

Bats - Activity surveys

- 4.5.6 The site is assessed as having moderate suitability for foraging and commuting bats, although it is anticipated that the areas of most interest are along the Lostrigg Beck corridor, the sheltered woodland boundaries, and peripheral habitats as parts of the site (particularly in Area 3) are extremely exposed within the open fields.
- 4.5.7 Standard survey guidelines (Collins 2023) for sites of moderate suitability require three manual activity surveys in Spring, Summer and Autumn and monthly automated bat detector surveys. Due to the size of the site seven transects will be required to adequately cover the survey area, with a minimum of two automated detectors per transect area.

Bats - Buildings/Structures Surveys

- 4.5.8 There are many mature trees within woodland habitats and field boundaries that are suitable for use by bats, however, all field boundaries and woodlands shall be retained with a suitable buffer. A small number of mature trees with features suitable for use by roosting bats are present within the open fields that may be lost to development.
- 4.5.9 Any trees which are to be removed should be assessed for its suitability for roosting bats. Each tree should be climbed and inspected by a suitably experienced ecologist

which holds a certificate for aerial inspections and a Natural England class licence to allow an endoscope inspection to be undertaken.

- 4.5.10 In the event that a climbed inspection cannot be undertaken, conventional bat emergence surveys should be carried out in accordance with Bat Conservation Trust Survey guidelines (Collins, 2023)²¹. In the event that a bat roost is recorded a bat mitigation Licence from Natural England will need to be obtained to remove the tree.

Great crested newt

- 4.5.11 There are fourteen waterbodies (A1WB1-WB14) located within 250m of the Site (Areas 1-5). WB1- Area 1 and WB4 and WB5 – Area 2 are located within the site all other waterbodies are located outside the boundaries. Suitable terrestrial habitats are present on site, particularly within the boundary hedgerows, woodland and rush tussocks. Large expanses of heavily grazed modified grassland generally offer suboptimal terrestrial habitat with limited foraging and shelter.

- 4.5.12 The desk study identified one record of GCN from 2016 to the south of the application area beyond within the 2km search radius of the site.

- 4.5.13 In order to establish if GCN are present on site it is recommended that eDNA surveys for GCN are undertaken of all waterbodies within 250m of the site boundaries. The survey window for eDNA surveys is restricted to mid-April to end of June. If GCN are recorded a mitigation licence from Natural England will be required to proceed with works. This may be in the form of a District Level Licence or a conventional Mitigation Licence.

Otter

- 4.5.14 The Lostrigg Beck and tributaries/streams are suitable for commuting Otter. The Lostrigg Beck corridor may also offer suitable habitat for holts and couches. The Lostrigg beck is outside the site but is immediately adjacent. For this reason, a minimum 10m buffer shall be retained along the margins. To the north this will be substantially more than 10m due to the steep sided embankments of the river valley. No direct impacts are therefore anticipated. Indirect impacts may occur at times of high rainfall, although a minimum 10m buffer should reduce the likelihood of pollution through sediment run off. However, as a precaution, Guidance of Pollution Prevention which replaces the Pollution Prevention Guidelines (Environment Agency) to reduce

²¹ Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition.

run-off during periods of high rainfall should be adopted and incorporated into the Biodiversity CEMP.

Common Reptiles

- 4.5.15 The site supports suitable habitat for common reptile species namely common Lizard, *Zootoca vivipara*, slow worm *Anguis fragilis* and grass snake *Natrix natrix*.
- 4.5.16 Optimal reptile habitat is present within Area 3, which supports tufted hair-grass, Yorkshire fog/rush pasture habitats and purple moor-grass and rush pasture. This habitat is structurally more diverse and provides optimal habitat for common lizard, slow worm and grass snake. Reptile surveys should be undertaken to establish presence or infer absence. Artificial reptile refugia should be deployed across site at least 10 tins/ha. They should be left to bed in for a two-week period before they are checked over seven visits. Visits should be undertaken in good/suitable weather conditions, between March and May and September to October inclusive.
- 4.5.17 Across the majority of the site (Area 1, Area 2, Area 4 and Area 5) the open field network is generally considered to be sub-optimal modified grassland, which is heavily sheep grazed, so majority of features are located within peripheral boundary features (which are not grazed), and immediately adjacent river corridor of the Lostrigg beck.
- 4.5.18 Under current plans all field boundaries (optimal habitats) in these areas shall be retained with an appropriate buffer, so impacts to reptile species shall be avoided. No surveys are recommended within Areas 1-2 and 4-5) but precautionary methods of working should be adhered to such no disturbance to boundary features and the buffer zone areas and ensuring that storage of materials are kept outside of the buffer zones and kept on pallets off the ground to avoid any potential reptiles using as a refuge. Methods of precautionary working should be incorporated into the Biodiversity CEMP.

Birds

- 4.5.19 The site provides suitable habitat for breeding and wintering birds. In order to assess the impacts of the breeding assemblage on site breeding bird surveys have been recommended and are currently underway. The breeding bird surveys are being carried out over 6 visits between March and June. The results of the survey shall be assessed and reported within a separate breeding bird report (WA, 2024).

4.5.20 Wintering bird surveys have already been undertaken (Tyler Grange) in 2023/2024. WA are currently waiting for the data to be supplied to inform an assessment of the wintering bird assemblage on site.

4.5.21 A range of sensitive species have been identified by the desk study information that have been recorded within 2km of the site, the most notable of which is Hen Harrier. Suitable habitat is present on site which is capable of supporting this species. A review of the wintering bird data is required to assess whether the site supports Hen harrier and other qualifying species of the Solway Firth SPA/Solway Firth and Mudflats RAMSAR site and ascertain whether the site is functionally linked.

4.5.22 Further data should be obtained from the Cumbrian bird group for specific data on Hen Harrier population within the area to help inform a robust assessment.

Common Toad

4.5.23 Ponds, damp grasslands across the site and the network of wet and damp/dry ditches provide suitable habitat for common toad. Again, the majority of habitat shall be retained within the linear field boundary features, however, waterbodies that are located within the fields may be lost as a result of the proposed development.

4.5.24 Minor losses of grassland may occur to facilitate access routes, but the majority of foraging habitat will be retained within the linear boundary features. Grassland areas shall be available for foraging throughout the duration of the works and post construction. Post construction grasslands shall be managed in a more sensitive manor for the benefit of wildlife.

4.5.25 A precautionary method of working such as draining down water bodies with a narrow-gauge mesh over the pipe, prior to infilling and checking debris, prior to removing shall be undertaken and incorporated into the biodiversity CEMP.

Invertebrates

4.5.26 The purple moor-grass and rush pasture habitats within the central areas of the site (Area 3) provide suitable habitat for Marsh Fritillary. The larval food plant Devil's bit scabious is present along the Lostrigg beck and within rush pasture habitats on site and in nearby fields in the wider application area. Desk study information confirmed the presence of marsh Fritillary in fields near to Stargill farm (see map of butterfly records LSF-SR007-00X). The fields within the central area of Area 3 are currently managed under a higher (Conservation) stewardship agreement, for the benefit of Marsh Fritillary.

- 4.5.27 Marsh fritillary is a listed-on Schedule 5 of the WCA and is also a s.41 priority species of principle importance. Other s.41 species recorded namely small heath, wall and small boarded fritillary have also been recorded within the wider application area. It is not currently known if this area is a release site for a wider conservation release area.
- 4.5.28 It is recommended that an Invertebrate Survey is conducted over Areas 1-5 by a suitably qualified ecologist experienced in invertebrate survey methodologies to fully inform the proposed development. A targeted Invertebrate Survey will involve a site walkover focussing on the presence, extent and condition of habitat features likely to support significant invertebrate species. The study would not an attempt to provide an exhaustive list of invertebrate taxa present within the Site but would enable an accurate and robust appraisal of its nature conservation value for invertebrates to be undertaken.
- 4.5.29 The results of the survey would be compiled into an Invertebrate Survey report, alongside any requirements for further/subsequent specialist species surveys, if required.
- 4.5.30 In addition to this as it is known that a number of protected and notable butterfly species is present on site /within the wider application area it is strongly recommended that a butterfly survey is carried out within Area 3, to establish if the proposed development footprint is supporting habitat for these species.

Protected Plants

- 4.5.31 The site provides suitable habitat for two plants (bluebell and petty whin) identified by the desk study as being present within 2km of the application area.
- 4.5.32 The hedgerow and woodland habitats that are likely to support bluebell are to be retained, so no loss of this species is likely to occur. Precautionary mitigation such as relocating any bulbs found during construction works can be provided within the Biodiversity CEMP.
- 4.5.33 Petty whin has not been recorded during the PEA. The majority of scrub is located along linear boundary features, so will be retained. The only area where scrub is present within the open grassland habitats is within the northern end of Area 3 and within the river corridor of the Lostrigg Beck (which is outside of the working area).

General Nesting Birds

4.5.34 In addition, due to the potential presence of ground nesting bird species (e.g., skylark and meadow pipit) within the Application Site, it is recommended that initial development works are undertaken outside of the usual bird breeding season (normally taken to be March – August inclusive). If such timescales cannot be accommodated, it is recommended that a check for the presence of active nests, and nesting birds should be undertaken by a suitably qualified ecologist prior to the commencement of works. Any active nests should be identified and protected subject to the relevant legal provisions until the nesting attempt is complete and the young have fledged.

4.6 General Recommendations

4.6.1 If the Site boundary alters and any other habitats are identified to be lost or affected by the development, then further surveys for habitats and protected species may be required.

4.6.2 Night-time work should be avoided whenever possible to limit the potential for disturbance to nocturnal animals.

5 BIODIVERSITY ENHANCEMENTS

5.1 Biodiversity Enhancement

5.1.1 In accordance with the requirements of the NPPF and BSI 42020:2013 ecological enhancements should be proposed that are over and above measures required to mitigate effects on biodiversity. Such enhancements could include the provision of the following, in addition to any measures required as mitigation (with exact specifications to be determined at the detailed design stage):

- Bird boxes, including a variety of designs, such as 45mm entrance boxes, 32mm entrance boxes, sparrow terraces, owl/kestrel boxes and swift boxes/house martin cups on trees and the installation of integrated bird bricks directly into the brickwork of new buildings/structures.
- Bat boxes including for a variety of species and for a variety of seasons, to be installed on retained mature trees and use of integrated bat boxes directly into the brickwork of new buildings and structures.
- Creation of insect and invertebrate houses/hotels, or management of retained standing and fallen deadwood.
- Provision of hedgehog houses within suitable habitats.
- Planting of native trees and shrubs of local provenance which naturally occur within the local area. To include berry, pollen and nectar producing species.
- Areas of green spaces planted with diverse native flora and linked to the wider landscape character.
- Enhancement and management of the hedgerows for the benefit of wildlife.
- Creation of habitats which are ecologically linked across site and into the wider area.
- Enhancement to habitats for the benefit of protected and s.41 priority species present within the site and wider area (i.e. Marsh Fritillary).
- Creation of wildlife ponds to provide habitats for invertebrates and amphibians.

5.1.2 It is recommended that all future establishment and management of habitats is detailed within a Landscape and Biodiversity Management Plan (LBMP), with habitat development targets set in accordance with the Target Habitat Condition proposed in the Metric as part of the BNG assessment.

6 CONCLUSION

6.1.1 Given the identified evidence of presence and/or likely presence of ecological receptors which may be adversely impacted by the development scheme, further surveys and/or assessments have been recommended in order to inform a full evaluation of adverse effects. Consequently, additional protected species survey and assessment reports will be required to compliment the planning application. Such reports include a Habitat Regulations Assessment (HRA) report to consider effects to nearby European conservation sites. Additionally, the results of further protected species surveys and evaluations should be considered within an Ecological Impact Assessment (EclA) report, in line with standard industry practice (CIEEM 2018). This report should include a formal assessment of impacts and will be suitable to fully inform the planning application.

6.2 Report Validity

6.2.1 In general, this report remains valid for a period of 18 months following the date of the habitat survey.

6.2.2 If the Site boundary or layout is subsequently modified and any other habitats are identified to be lost or affected by the development, then further surveys for habitats and protected species may be required.

8 REFERENCES

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APPENDICES

Appendix 1
Legislation and Policy Summary

Appendix 1 – Legislation and Policy Summary

Legislation for Habitats/Sites

Designated Site/Habitat	Status
Ramsar Sites	Ramsar Sites are wetlands of international importance designated following the Ramsar Convention. RAMSAR sites have the same level of protection as SACs and SPAs under the Wildlife and Countryside Act 1981 (as amended).
SPA (Special Protection Areas)	SPAs seek to protect the habitats of rare and vulnerable European and UK birds. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SAC (Special Areas for Conservation)	SACs are strictly protected areas which represent important and threatened habitats in Europe and the UK. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SSSI (Sites of Special Scientific Interest)	SSSIs protect the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were renotified under the Wildlife and Countryside Act 1981 (as amended). Modified provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.
NNR (National Nature Reserves)	NNRs are examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 or the Wildlife and Countryside Act 1981 (as amended). Legal protection of NNRs is provided under the Wildlife and Countryside Act 1981 (as amended).
Hedgerows	All hedgerows are protected by the Hedgerows Regulations 1997, under which it is an offence to remove or destroy certain hedgerows without planning consent or permission from the Local Planning Authority. These regulations do not apply to any hedgerow within the curtilage of, or marking the boundary of the curtilage of, a dwelling house.
LNR (Local Nature Reserves)	Designated by the National Parks and Access to the Countryside Act 1949, LNRs may be declared for nature conservation by local authorities after consultation with the relevant statutory nature conservation agency. Legal protection of LNRs is provided under the Wildlife and Countryside Act 1981 (as amended).

Legislation for Species

Species	Legal Status
Creeping Marshwort, Early Gentian, Fen Orchid, Floating-leaved Water Plantain, Killarney Fern, Lady's Slipper, Shore Dock, Slender Naiad, Yellow Marsh Saxifrage	Under the Conservation of Habitats and Species Regulations 2017 (as amended), it is illegal to deliberately pick, collect, uproot or destroy any such species.
Bats, Dormouse, Otter, Wild Cat, Great Crested Newt, Natterjack Toad, Sand Lizard, Smooth Snake, Large Blue Butterfly	<p>These animals and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (as amended), which makes it illegal to:</p> <ul style="list-style-type: none"> • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb²² such an animal; and • Damage or destroy a breeding site or resting place of such an animal. <p>European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed, namely:</p> <ul style="list-style-type: none"> • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. <p>LPAs must consider the above 3 'tests' when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations.</p>
Bats, Dormouse, Great Crested Newt, Heath Fritillary, High Brown Fritillary, Large Blue, Marsh Fritillary, Natterjack Toad, Pine Martin, Otter, Red Squirrel, Sand Lizard, Smooth Snake, Swallowtail, Water Vole, Wildcat	<p>These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended), which makes it illegal (subject to certain exceptions) to:</p> <ul style="list-style-type: none"> • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection; and

²² Under the Conservation Regulations, disturbance of protected animals includes in particular any disturbance which is likely to: (i) impair their ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate; (ii) significantly affect the local distribution or abundance of the species in question.

Species	Legal Status
	<ul style="list-style-type: none"> Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Adder, Common Lizard, Grass Snake, Slow Worm, White-clawed Crayfish	These animals receive partial protection under the Wildlife and Countryside Act 1981 (as amended), which provide protection against intentional killing or injury of any such animal.
Nesting Birds	<p>All wild birds (as defined by the act) are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it illegal (subject to exceptions) to:</p> <ul style="list-style-type: none"> Intentionally kill, injure or take any wild bird; Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Wildlife and Countryside Act 1981 (as amended) Schedule 1 listed Birds	Additional protection is provided to birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any bird listed on Schedule 1, or their dependent young while nesting.
Badgers	<p>The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger, or attempt to do so and to intentionally or recklessly interfere with a Badger sett. This includes:</p> <ul style="list-style-type: none"> damaging or destroying an active sett; obstructing access to a sett; and disturbing a Badger while it is occupying a sett. <p>Licences can be granted to permit sett closure and/or disturbance between July and November inclusive (i.e. outside the sow pregnancy/birth period).</p>
Wild Mammals	The Wild Mammals (Protection) Act 1996 provides legal protection to all wild mammals (as defined by the act) against the following actions: mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, drown, crush, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.
Wildlife and Countryside Act 1981 (as amended) Schedule 9 listed invasive animals (Part 1) and plants (part 2)	Certain species of plants and animals that do not naturally occur in Great Britain have become established in the wild and represent a threat to the natural fauna and flora. Section 14 of the Wildlife and Countryside Act 1981 (as amended) prohibits the release or allowed escape of animals listed in Schedule 9 to the Act and planting, or allowed growth, of any plant listed in Schedule 9 to the Act.

Policy Summary

Section 40 of the Natural Environment and Rural Communities (NERC) Act imposes a legal duty on Planning Authorities to ‘have regard’ to the conservation of biodiversity when considering planning applications.

Section 41 of the NERC Act requires the Secretary of State to publish a list of species and habitats of principal importance for conserving biodiversity in the UK. Such Biodiversity Action Plan (BAP) Habitats and Species (2007) do not offer the species any specific protection but help to highlight the species importance at a national level. This list is used by Local Planning Authorities to identify the species and habitats that should be afforded priority when applying the requirements of the National Planning Policy Framework (NPPF).

The NPPF underpins the Government’s planning policies for England and how these are to be applied. The central theme of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment because of its potential impact on a habitats site is being planned or determined.

The NPPF states:

When determining planning applications, local planning authorities should apply the following principles:

- *If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- *Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶³ and a suitable compensation strategy exists; and*

- *Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*
- *The following should be given the same protection as habitats sites:*
 - a) *potential Special Protection Areas and possible Special Areas of Conservation;*
 - b) *listed or proposed Ramsar sites; and*
 - c) *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

The NPPF requires the Planning Authority to have a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan. In addition, the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Appendix 2

Appendix 2 – Hedgerow Descriptions

Area 1: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
A1-H1	Y	Y	Y	Located along the edge of a field and PRow. Sides irregularly trimmed field side. No associated ditch. Comprises abundant hawthorn, occasional willow sp, elder, and rarely occurring dog rose and whitebeam. Hedge bottom flora comprised abundant moss sp, frequent bramble, ivy, false wood brome, cleavers, red campion and lord's n ladies.
A1-H2	N	Y	N	Mature internal field boundary hedge, 3.5m x 4m. Sides trimmed irregularly. Comprises abundant hawthorn with occasional blackthorn, elder, dog rose and honeysuckle. Hedge bottom flora comprises frequent Yorkshire fog and occasional common nettle, fox glove, Lord's n ladies.
A1-H3	Y	Y	N	Mature internal field boundary hedge, 3.5m high x 1.5m wide. Standard ash tree has ash die back. Hedge comprises abundant hawthorn, with occasional gorse. Hedge bottom flora includes common couch, creeping bent, common nettle, cock's-foot and broadleaved dock.
A1-H4	Y	Y	Y	Mature trackside hedge 2.5m high x 1.25m wide. Comprises abundant hawthorn, Midland hawthorn, dog rose and osier. Hedge bottom flora is sparse due to shading from hedge, but occasional common nettle, perennial rye-grass, cleavers and moss sp occurs.
A1-H5	N	Y	Y	Mature internal boundary hedge supports dominant hawthorn. Hedge bottom flora supports Cock's-foot and bramble.
A1-H6	N	Y	Y	Mature internal boundary hedge supports dominant hawthorn. Hedge bottom flora supports Cock's-foot and bramble.
A1-H7	Y	Y	N	Mature internal boundary ditch along ditch. Very defunct less than 50% present. Very gappy 3m x 2m. Hedge appears to be on a state of decay. Ubiquitous hawthorn with standard oak along line of hedge within is now isolated. No hedge bank flora, just open field vegetation, which is grazed.
A1-H8	N	Y	N	Defunct internal boundary hedge, mature and greater than 30 years old. Very gappy, less than 50% present. No hedge bottom flora.
A1-H9	N	Y	N	Mature internal boundary hedge, no trees and no associated ditch. Very gappy with less than 50% present. Measure c.3m x 1.5m and comprises ubiquitous hawthorn. Hedge bottom flora comprises cock's-foot, common nettle, common couch and cleavers.
A1-H10	N	Y	N	Mature internal boundary hedge with associated ditch. Comprises hawthorn with a hedge bottom flora of Cock's-foot, creeping bent, and cleavers.
A1-H11	N	Y	Y	Mature hedge, 3.5-4m high x 2.5-3m wide alongside PRow/bridleway. No ditch. Unmanaged and supports ubiquitous hawthorn. Hedge bottom flora comprises frequent common nettle and bramble, occasional cleavers and red campion.
A1-H12	N	Y	Y	Mature hedge beyond the boundary fence measuring c.3m x 2m and comprising hawthorn with occasional dogwood. Hedge bottom flora comprises Yorkshire fog, creeping bent, red campion and locally frequent ground elder
A1-H13	N	N	N	OFFSITE Mature hedge along the southern boundary between the fence and the stream. Gappy and merges with trees and shrubs which line the stream corridor.

Area 2: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
A2-H1	N	Y	N	Mature internal boundary hedge forms the northern most boundary of area 2. Mature, gappy and windblown, no ditch, no trees. Comprises abundant hawthorn and occasional gorse. Hedge Bottom flora comprises frequent perennial rye-grass, common bent, and cock's-foot with occasional foxglove, common knapweed, and greater stitchwort.
A2-H2	Y	Y	Y	Mature roadside hedge measuring 3.5m x 2m wide, comprises frequent hawthorn, blackthorn with occasional white willow, dog rose. Hedge bottom for a comprises frequent false wood brome, perennial rye-grass, occasional cleavers, common nettle, hogweed, bracken, broadleaved dock, lesser celandine and greater stitchwort.
A2-H3	Y	Y	N	Mature internal boundary hedge. Defunct and very gappy. 1-2.5m tall and 0.5-2m wide comprising hawthorn and occasional gorse. Dead Ash tree present. Hedge bottom flora comprises perennial rye-grass and creeping buttercup. Sheep grazed beneath.
A2-H4	N	Y	Y	Mature internal boundary hedge 1.5m-3m tall x 1-2m wide comprising hawthorn and occasional gorse and willow sp. Hedge bottom flora comprises perennial rye-grass, creeping bent, and occasional common sorrel, cat's-ear and field wood-rush.
A2-H5	Y	N	Y	Roadside mature hedge with trees comprising frequent hawthorn, wild privet, occasional dog rose and rarely occurring apple sp Malus sp and ash trees. Hedge bottom flora comprises frequent false wood brome, and occasional common nettle, garlic mustard, hedge woundwort and bracken.
A2-H6	Y	Y	Y	Mature roadside hedge with trees comprising abundant hawthorn with occasional gorse with ash and sycamore trees. The hedge stands 4m high x 2.5m wide. Hedge bottom flora comprises frequent common nettle, cow parsley and bramble with occasional garlic mustard, cleavers red campion and herb robert and rarely occurring meadowsweet.
A2-H7	N	Y	N	Hedge bank supporting felled hedgerow stumps which are starting to regrow. Hedge bank flora and comprises perennial rye-grass, creeping bent, ribwort plantain, foxglove and creeping buttercup.
A2-H8	Y	Y	N	Mature internal boundary hedge with trees 2.5m high and unmanaged. Comprises hawthorn, with occasional dog rose and occasional ash and oak sp trees. Hedge bottom flora comprises perennial rye-grass, cock's-foot, with occasional cleavers, common sorrel and bramble.
A2-H9	Y	Y	Y	Mature roadside hedge with trees measuring approximately 4m tall x 3m wide. Comprises abundant hawthorn, with occasional dog rose, sycamore and blackthorn and rarely occurring gooseberry. Ash trees with ash die back were also present. Hedge bottom flora comprises frequent bramble, cleavers and common nettle with occasional greater stitchwort, hogweed, red campion, bush vetch, lesser celandine and meadowsweet.
A2-H10	N	Y	N	Mature internal boundary hedge, unmanaged supports abundant hawthorn and occasional willow sp. Comprises frequent cock's-foot, cleavers, and occasional common nettle and bramble.
A2-H11	Y	Y	N	A continuation of H10, the internal field boundary hedge is located on a hedge bank and comprises hawthorn, elder dog rose and ash trees. Hedge bottom flora is as described in H10.
A2-H12	N	Y	N	A defunct internal boundary hedge comprising ubiquitous hawthorn. Very gappy. Vegetation beneath the hedge is grazed to the base.

Area 2: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
A2-H13	N	Y	N	Mature roadside hedge, a short stretch less than 30 m comprising hawthorn and measuring 3-3.5m high x 1.5m wide. Unmanaged. Hedge bottom flora comprises common nettle, occasional hogweed, cow parsley and red campion.
A2-H14	N	Y	Y	Mature internal boundary hedge located around farm buildings/horse stable. Gappy in places, 4m high x 3m wide. Comprises abundant hawthorn, with occasional elder and dog rose. Hedge bottom flora comprises common nettle bramble and bare ground.
A2-H15	Y	Y	N	Trackside hedge 3m x 1.5m wide, comprising abundant hawthorn with wild privet and sycamore and ash trees. The
A2-H16	N	Y	N	Mature gappy internal field boundary. Hawthorn hedgerow and hedge bank is defunct. Unfenced from sheep.
A2-H17	Y	Y	N	Mature gappy hedge with trees, used by sheltering sheep. Defunct hedge and hedge bank, heavily wind swept and used by sheep. Two mature ash trees (with ash die back). Hedge bottom flora is sparse. Bare ground with perennial rye and typical field vegetation.
A2-H18	Y	Y	N	Mature gappy hedge with trees, used by sheltering sheep. Defunct hedge and hedge bank, heavily wind swept and used by sheep. Two mature ash trees (with ash die back). Hedge bottom flora is sparse. Bare ground with perennial rye and typical field vegetation.
A2-H19	N	Y	N	Mature internal boundary hedge 5m high x 3m wide comprising abundant hawthorn, and rarely occurring wild cherry and elder. Hedge bottom flora comprises perennial rye-grass, herb Robert, foxglove, lesser celandine and false wood-brome.
A2-H20	N	Y	N	A mature internal boundary hedge. Defunct, less than 50% present.
A2-H21	N	Y	N	Internal boundary hedge. Very defunct hedge and hedge bank. Less than 50% of hedge and bank present
A2-H22	Y	Y	Y	Mature trackside hedge 2.5m-3m high x 2m wide. Hedge is gappy at the base and comprises abundant hawthorn with occasional blackthorn and ash trees. Hedge bottom flora comprises abundant Yorkshire fog, with occasional fox glove, greater stitchwort, common nettle and rosebay willowherb.
A2-H23	Y	Y	N	Mature internal boundary hedge with trees (ash and oak sp) and associated ditch. Hedgerow comprises frequent hawthorn with rarely occurring holly and gorse. Hedge bottom flora is sparse and heavily sheep grazed.
A2-H24	Y	Y	Y	Internal boundary hedge with trees comprising abundant hawthorn, and occasional holly. Hedge bottom flora comprises an extension of the field vegetation and is heavily grazed.
A2-H25	Y	Y	Y	Mature internal boundary hedge with ash trees. Comprises abundant hawthorn with occasional holly. 2.5m x 2m wide. Hedge is gappy and wind swept.
A2-H26	Y	Y	N	Mature hedge with trees 2.5m-4m tall x 2.5m wide. Comprises hawthorn with holly and blackthorn with coppiced mature ash tree and a mature oak tree.
A2-H27	Y	Y	N	Hedge bank with mature gorse, very gappy. Gorse extends into field in places. Mature ash tree present.
A2-H28	Y	Y	N	Mature hawthorn hedge, unmanaged and gappy with occasional ash trees with ash die back. Hedge is very defunct <50% present and windswept.
A2-H29	Y	N	N	Mature track side hedge comprising mature hawthorn with ash standards (ash die back). Hedge bottom flora comprises Yorkshire fog, perennial rye-grass, cow parsley, common nettle, lords and ladies, greater stitchwort and bush vetch.

Area 2: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
A2-H30	Y	Y	N	Mature internal boundary hedge. Defunct and gappy at the base. Evidence of wall within the hedge bank. Comprises hawthorn, with rarely occurring wild cherry and gorse.
A2-H31	Y	Y	Y	Mature hawthorn hedge, unmanaged and gappy with occasional ash trees with ash die back. Hedge is very defunct<50% present and windswept.
A2-H32	Y	Y	N	Gappy mature hedge on hedge bank. Ubiquitous hawthorn. Hedge is gappy and defunct <50 % present. Ash trees present. Hedge bottom flora is open to grazed animals and unfenced.
A2-H33	N	Y	N	Mature internal field boundary. Defunct and gappy. Hawthorn with gorse. Hedge bank unfenced and heavily sheep grazed.
A2-H34	Y	Y	N	Mature hawthorn hedge, unmanaged and gappy with occasional ash trees with ash die back. Hedge is very defunct<50% present and windswept.
A2-H35	N	Y	N	Mature internal field boundary hedge which is defunct with <10% of hedge remaining. Poor condition. The remaining shrubs comprise hawthorn.
A2-H36	N	Y	N	Mature defunct hedge with remnant shrub of hawthorn, dog roe and gorse remaining on hedge bank. The hedge forms part of the southernmost boundary of Area 2. Hedge bank is still viable. No hedge bottom flora present.
A2-H37				Mature hedge on the southern boundary of Area 2. Hedge comprises abundant hawthorn and gorse
A2-H38	N	Y	N	Mature internal field boundary hedge, 4m x 2.5m. Comprises blackthorn, hawthorn and willow sp. Hedge bottom flora comprises Yorkshire fog, dandelion sp, common dog-violet, red campion, broadleaved dock, cow parsley greater stitchwort, lesser celandine and meadowsweet.
A2-H39	Y	Y	y	Mature roadside hedge with trees. Hedge gappy and unmanaged 3-4m high and 1.5m wide. Comprises abundant hawthorn with occasional dog rose, blackthorn and Sycamore trees. Hedge Bottom flora comprises ransoms, garlic mustard, and lesser celandine, occasional ivy, cleavers and herb Robert and rarely occurring moschatal.
A2-H40	N	Y	N	Beyond the fence line boundary, Mature hedge that has been felled. Some regrowth from stumps present. Visible species include hawthorn, Hedge bottom flora comprises Yorkshire fog, Perennial rye-grass and creeping thistle.
A2-H41	N	N	N	Mature internal boundary hedge, defunct. Only 50 % of the hedge shrubs remain. Species comprise abundant hawthorn, frequent blackthorn, occasional willow and holly. Limited Hedge bottom flora as currently sheep grazed and used as a shelter.
A2-H42	Y	Y	Y	Mature hedgerow 5m x 3m, comprising hawthorn, elder, blackthorn and hazel. Hedge bottom flora includes cock's-foot, red campion, lesser celandine, greater stitchwort.

Area 3: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
A3-H1	N	Y	N	Roadside hedge, regularly management to a box shape. Hedge is 1.5m high x 1m wide and supports abundant hawthorn, and occasional willow sp and wild privet. Hedge bottom flora comprises frequent cock's-foot, occasional common nettle, red campion and cleavers.
A3-H2	Y	Y	N	Mature internal boundary hawthorn hedge c2mhigh x 1m wide with occasional ash trees. Trees have ash die back. Hedge bottom floa comprises cock's-foot, cleavers, common nettle, cow parsley and red campion.
A3-H3	Y	N	N	Mature internal field boundary hedge with occasional young trees (ash and sycamore). Comprises abundant hawthorn and rarely occurring gorse. Hedge bottom flora comprises Abundnat common nettle, frequent cleavers, and occasional bush vetch and willowherb sp
A3-H4	Y	N	N	Mature trackside hedge approximately 3m high x 2m wide eith abundant hawthorn, occasional blackthorn, dog rose and willow sp. Ash and Sycamore trees occur occasionally.
A3-H5	Y	N	N	Mature hedge 3m high x 2m wide which is currently unmanaged. Ubiquitous hawthorn with young sycamore and ash trees. Hedge bottom flora comprises frequent cock's-foot, common nettle, occasional creeping thistle and red campion.
A3-H6	N	N	N	Mature A shaped hedge 2.5m high x 2m wide and comprises abundant blackthorn, hawthorn, with occasional wild privet and honeysuckle. Hedge bottom flora comprises common nettle, cock's-foot, occasional red campion and creeping thistle. A small 20m gap has been replanted with whips.
A3-H7	N	N	N	Trackside hedge, newly planted with tree guards. Gappy, no trees and no ditch
A3-H8	Y	N	N	Mature internal boundary hedge 1.7-2m high x1-1.5m wide with young ash trees suffering with ash die back disease. Hedge comprises both hawthorn and midland hawthorn.
A3-H9	Y	N	N	A continuation of H8, a mature internal boundary hedge 1.7-2m high x1-1.5m wide with young ash trees (suffering with ash die back disease). Hedge comprises both hawthorn and midland hawthorn.
A3-H10	N	N	N	Newly planted hawthorn hedge, less than 30 years old. 1.8m high and 1.25m wide. No current management. Hedge bottom flora comprises abundant cocks'-foot, frequent common nettle, occasional broadleaved dock and hedge woundwort with locally dominant ground elder.
A3-H11	Y	N	N	Mature internal boundary hedge 2.5m high and 1.5m wide. Unmanaged. Comprises hawthorn, Midland hawthorn and occasional ash trees along the length of hedge.
A3-H12	Y	N	N	Mature hedge located along a track, 2.25m high x 1-1.5m wide. Comprises abundant hawthorn, with frequent Midland hawthorn, and occasional elder and elm sp. Hedge bottom flora comprises Yorkshire fog,, soft rush, common nettle. Occasional ash trees are located along the hedge.
A3-H13	N	Y	N	Mature internal boundary hedge. Defunct and gappy < 50% of the hedge still remains. Gaps in hedgerow planted with whips. Hedge comprises hawthorn. Blackthorn, gorse, and young ash trees. Hedge bottom flora comprises abundant perennial rye-grass, occasional Yorkshire fog, creeping bent, greater stitchwort and foxglove.
A3-H14	Y	N	N	Short length of hawthorn hedge less than 100m. Hedge is mature 1.75m high x 1m wide and unmanaged. Open and gappy at the base. Hedge bottom flora comprises frequent

Area 3: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
				Yorkshire fog, Frequent tufted hair-grass, curled dock and creeping buttercup.
A3-H15	Y	Y	N	Hedgebank with remnant stumps of former hedgerow. Now planted with whips in guards. One dead ash tree within the hedgeline. Hedge bottom flora Cock's-foot, creeping bent, common nettle, dandelion, broadleaved dock.
A3-H16	Y	N	N	Mature trackside hedge with abundant hawthorn and occasional oak sp. Hedge measures 2.5m x 1.5m. Ash trees located approximately every 50m along the length of the hedge, all appear to have ash die back. Hedge bottom flora comprises Yorkshire fog, cock's-foot, soft rush, common nettle, and cleavers.
A3-H17	Y	N	N	Mature trackside hedge with abundant hawthorn and occasional oak sp. Hedge measures 2.5m x 1.5m. Ash trees located approximately every 50m along the length of the hedge, all appear to have ash die back. Hedge bottom flora comprises Yorkshire fog, cock's-foot, soft rush, common nettle, and cleavers..
A3-H18	Y	N	N	Mature unmanaged hawthorn hedge, 3.5m high x 1.5m wide. With two ash trees (with ash die back). Hedge is in poor condition, open at the base.
A3-H19	Y	N	N	Mature unmanaged hawthorn hedge, 3.5m high x 1.5m wide. With ash trees (with ash die back). Hedge is in poor condition, open at the base.
A3-H20	N	Y	N	Mature gappy hedge located on a hedgebank, adjoins conifer plantation woodland. Comprises abundant hawthorn, and occasional blackthorn with rarely occurring hazel. Hedge bottom flora comprises cock's-foot, Yorkshire fog and common nettle.
A3-H21	Y	H	N	Mature hawthorn hedge 3m x 2m with occasional gorse and stunted beech trees. Hedge is defunct and gappy with less than 50% present. Hedge bottom is sheep grazed and comprises Tufted hair-grass, creeping bent, and dense bramble.. In very exposed location.
A3-H22	N	N	N	Trackside hawthorn hedge, fenced on field side. 3.5m tall x 2m wide. Gappy. Hedge bottom flora comprises, abundant cock's-foot, frequent creeping bent, occasional dandelion, bramble, angelica and crosswort.
A3-H23	N	Y	N	Mature and gappy hawthorn hedge on earth bank, approximately 3m x 1.5m, now less than 50% of the hedge remains. Hedge bottom flora is short and sheep grazed and comprises Yorkshire fog, soft rush and common nettle.
A3-H24	N	Y	N	Mature internal boundary hawthorn hedge. Gappy 1.25m x 1m wide. Hedge bank supports finer grassland comprising Yorkshire fog, fescue sp, field wood rush, ribwort plantain, Marsh thistle, <i>Rhytidadelphus squarrosus</i> .
A3-H25	N	Y	N	Mature relic and defunct hawthorn hedge, located outside the boundary fence line. Only 10% of hedge boundary remains.
A3-H26	N	Y	N	Mature relic and defunct hawthorn hedge, located outside the boundary fence line. Only 10% of hedge boundary remains.
A3-H27	N	N	N	Relic hedge, defunct and gappy comprising hawthorn, gorse and occasional beech and willow sp. Field vegetation spreads beneath the open and gappy hedge.
A3-H28	N	N	N	Gappy hawthorn and willow hedge along ditch bank. Double fenced. No typical hedge bank flora,. Ditch bank flora extends beneath the hedge bottom and comprises

Area 3: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
				cock's-foot, tufted hair grass, silverweed, greater stitchwort, angelica and marsh valerian.
A3-H29	N	N	N	Gappy hedge located beyond fence line. Offsite.
A3-H30	N	Y	N	Mature hawthorn and gorse hedge located on a hedge bank. Very gappy and defunct, recently planted with hawthorn whips. The hedge is fenced to both sides. Hedge bottom flora comprises occasional fox glove, bramble, greater stitchwort, common nettle, broadleaved dock, silver weed cleavers and creeping buttercup.
A3-H31	N	Y	N	Mature hawthorn and gorse hedge located on a hedge bank. Very gappy and defunct, recently planted with hawthorn whips. Hedge is fenced to both sides. Hedge bottom flora comprises occasional fox glove, bramble, greater stitchwort, common nettle, broadleaved dock, silver weed cleavers and creeping buttercup.
A3-H32	N	Y	N	Mature defunct hawthorn and gorse hedge, replanted with whips.
A3-H33	N	Y	N	Relic hedge on hedge bank, replanted with hawthorn and dogwood whips.

Area 4: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
A4-H1	N	Y	N	Mature internal field boundary hedge, defunct and windswept. Open at the base and gappy.. Comprises ubiquitous hawthorn. Hedge Bottom flora is unfenced and comprises perennial ryegrass, occasional Yorkshire fog, sheep sorrel, common cats-ear.
A4-H2	Y	N	N	Mature hedge 3m x 1m with associated ditch. Hedge is gappy and comprises hawthorn and willow sp. Three mature Grey poplar trees are present to the southern end. No hedge bottom flora just open to the pasture field
A4-H3	Y	N	N	Mature hedge with trees along stream corridor. The hedge connects a Broadleaved woodland to a conifer plantation. Hedge is unmanaged 4m x 2.5-3m wide. Comprises abundant blackthorn and elm sp with occasional hazel. Mature sycamore trees also present.
A4-H4	N	Y	N	Mature unmanaged hedge 3m x 1.5m, which is open at the base. Grazed beneath.
A4-H5	N	N	N	Mature roadside hedge 4m high and 2-3m wide. Top left unmanaged and sides trimmed. Comprises abundant hawthorn and frequent willow sp.
A4-H6	N	N	N	Roadside boundary hedge, managed and comprises of hawthorn approximately 2m x 1.5m
A4-H7	N	N	N	Roadside boundary hedge, managed and comprises of hawthorn approximately 2m x 1.5m
A4-H8	N	N	N	Roadside boundary hedge. A continuation of H6 and H7. Dense bramble in the hedge bottom.
A4-H9	N	N	N	Ornamental garden hedge, leylandii 5m +in height, also supports occasional hawthorn and elder and spruce sp.
A4-H10	Y	Y	N	Mature internal field boundary hawthorn hedge. Defunct and gappy with less than 50% of the hedge remaining. Associated ditch is present. Unfenced from stock, so grazed beneath.
A4-H11	N	Y	N	Mature internal field boundary hawthorn hedge. Defunct and gappy with less than 50% of the hedge remaining. Associated

Area 4: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
				ditch is present. Hegde bottom is unfenced and grazed by sheep.

Area 5: Hedgerow Descriptions				
Hedge No.	Trees Present	Hedge Bank Present	Historically Laid	Description
H1	N	N	N	Internal field boundary Hawthorn hedge. Mature managed 1.7m x 1m wide.
H2	N	N	N	Internal field boundary Hawthorn hedge. Mature managed 1.7m x 1m wide.
H3	Y	N	N	A young hawthorn hedgerow runs from north to south in the centre of Area 6, separating the two fields. Nine young ash trees exist within the hedgerow. Modified grassland extends beneath the hedgerow. perennial rye-grass occasional cock's foot and soft rush.
H4	N	N	N	Roadside hawthorn hedge along the southern boundary. The hawthorn hedgerow is managed and defunct. Dense mixed bramble and hawthorn scrub is present beneath the hedge.
H5	N	N	N	Roadside hawthorn hedge along the southern boundary. The hawthorn hedgerow is managed and defunct. Dense mixed bramble and hawthorn scrub is present beneath the hedge.

Appendix 3

Appendix 3 – Ditch Descriptions

Area 1: Ditch Descriptions	
Ditch Numbers	Ditch Description
A1-D1	Wet ditch with flowing water. Appears to start at the low point of a field which collects field drainage. Shallow water depth to the south becoming deeper to the north. To the south the ditch is c0.5m wide and is open and shallow supporting common bent, from the central point of the hedge the channel becomes more irregular in width ranging between 0.5-1.5m. Vegetation in the more central areas supports frequent soft rush, creeping bent, floating sweet-grass and occasional curled dock. The channel also appears to meander. The ditch disappears underground within field drains and reappears a number of times via small deep sides holes in the field. Areas of visible water appear deep in places upto 0.4m. The ditch reappears beyond the site boundary and adjoins the Lostrigg Beck.
A1-D2	Wet ditch at the time of survey. Channel <1m wide flows into the off-site stream (D3) to the south of the site. Banks are variable but generally between 0.25 and 0.5m high and c.45 degrees. The banks support grassland vegetation comprising a mosaic of finer and courser grassland including fescue sp, meadow buttercup, creeping bent, occasional tufted hair grassland, field wood rush, ribwort plantation carnation sedge and rarely occurring tormentil. The ditch supports frequent emergent soft rush and occasional curled dock.
A1-D3	Offsite Stream beyond the southern boundary. Ditch appears shaded by woodland to the west which comprises sycamore, ash, willow sp, hawthorn and larch sp. Beyond the woodland the banks are shaded by trees and scrub which line the banks and heavily cattle poached. Stream banks appear steep sided with limited vegetation.

Area 2 – Ditch Descriptions	
Ditch Numbers	Ditch Description
A2-D1	Damp ditch, no open water. Channel <1m at the base, predominantly bare earth with frequent creeping buttercup, creeping bent, occasional common nettle, meadowsweet and broadleaved dock. Bank to the south are shallow 0.2m high, northern bank is c.1m high and greater than 45 degrees, supports H1. Not suitable for WA overshadowed, lack of connecting habitat.
A2-D2	Wet ditch, c0.5m wide at the base. Very shallow water <0.01. Greater willowherb present within the channel where visible. Banks are steep and vary in height from 0.5m -1m high. Southern bank supports Hedge 10. Ditch overshadowed. Bank vegetation comprises cock's-foot, cow parsley, common sorrel, bramble.
A2-D3	Wet ditch/stream flowing west to east, channel is variable in width from 0.5-1m wide and comprises abundant soft rush, frequent floating sweet-grass, occasional brooklime and creeping bent. Shallow banks are eroding and poached. Unfenced and supporting grazed field vegetation comprising perennial rye-grass, creeping bent, creeping buttercup, white clover.
A2-D4	Damp ditch to south of associated hedge. The channel is c.0.5m wide and supports soft rush, water starwort sp. Creeping Jenny, bog starwort and water forget-me-knot. The channel is overshadowed by gorse scrub.
A2-D5	Dry/damp ditch. No open water, just bare mud with creeping buttercup, meadowsweet, creeping bent, broadleaved dock and common nettle. Bank to the north is raised and supports a hedge which overshadowed the ditch. The bank to the south is almost flat and open to the field.
A2-SP1	A wet flush which appears from an open field. Water flows west (downhill) and offsite towards the Lostrigg Beck river valley. Banks are shallow and support abundant soft rush, frequent creeping bent and occasional greater willowherb and common nettle at the margins. Channel is upto 2m wide.
A2-SP2	Wet flush starting within open field. Supports dense soft rush with floating sweet-grass where water appears on the surface
A2-SP3	Wet flush that appears in the open field. Flows from the north across the open field. Shallow water and boggy ground. No obvious open water but vegetation comprise abundant creeping bent, frequent floating sweet-grass, occasional brooklime and broadleaved dock.

Area 3 – Ditch Descriptions	
Ditch Numbers	Ditch Description

A3-D1	Static wet ditch along the edge of a conifer plantation. Banks shallow 0.5m high and channel is approximately 1m wide. Unlikely to support water for more than 4 months of the year. Shaded by plantation. Banks with dense scrub and soft rush. Located outside the Site boundary, beyond the fence line.
A3-D2	Damp ditch, located on the field side of the hedge and track. Channel is approximately 0.5m wide, no open water, just wet mud. Soft rush and common nettle growing from channel, with dense bramble between the fence line and the ditch/banks. Banks shallow c0.5m high.
A3-D3	Ditch located along the edge of plantation woodland. Banks are approximately 1m high, the drain is partially reinforced at the northern end, with a straight concrete channel. And to the south the banks are bare earth. The channel ranges from 0.5m -1m wide with c.0.05m water depth. Water flows south to north. It exits the Site via a culvert beneath the farm access track.
A3-D4	Man made ditch along the edge of the plantation woodland. The channel is approximately 0.5m wide and was currently holding 0.01-0.05m of water. Unlikely to hold water throughout the year. Banks are very shallow only 0.2m high with Timothy, cock's-foot, soft rush, angelica and bush vetch.
A3-D5	Ditch located on track side of mature hedge. Ditch holds shallow water c0.02m unlikely to be wet throughout the year. Channel is approximately 0.5m wide at the base and supports great willowherb, hard rush and common nettle. Ditch is overshadowed by mature hedge. Banks are 0.5m high.
A3-D6	Wet ditch, flowing water. Channel 0.5m wide. No aquatic vegetation recorded. Steep banks lined with tufted hair grass and cock's-foot with occasional marsh valerian, angelica, greater stitchwort and broadleaved dock. Bramble and gorse scrub also present. Line of mature trees present along the bank side.
A3-D7	Wet ditch flows into Lostrigg Beck. The channel is approximately 1m wide and holds a shallow water 0.02-0.03m deep. Channel vegetation comprises frequent soft rush, occasional floating sweet-grass, meadow sweet, water forget-me-knot and brooklime. The ditch banks are gently sloping unfenced and open to grazed animals resulting in poached embankments. Banks typically support field grassland such as abundant perennial rye-grass, Yorkshire fog and creeping ent, frequent to occasional tufted hair—grass, common nettle and soft rush.
A3-D8	Wet ditch which flows east to west along the edge of a conifer plantation and eventually adjoins D7. The channel is 1-1.25m wide at the base with a shallow water ranging from 0.05-0.4m depth. Channel vegetation comprises occasional floating sweet grass, bog starwort, bedstraw sp, great willowherb, meadow sweet and soft rush. Banks are approximately 45° and range from 0.5-1m high. Banks are sheep grazed so have a short sward but comprises Yorkshire fog, creeping bent, perennial rye-grass, fescue sp, with scattered bramble, gorse and hawthorn scrub.
A3-D9	Wet ditch with slow flow along the edge of a plantation woodland and merges with D8. The channel is 1.25m wide with shallow water c0.2m max depth. The water is clear. Channel vegetation comprises abundant soft rush and frequent floating sweet -grass.
A3-D10	Dry/Damp ditch along field edge (and associated hedgerow). Ditch is c.0.5m wide with shallow banks less than 0.5m high. No obvious aquatic or emergent vegetation, just pasture grasses which extend into the ditch. Partially overshadowed by hedge.
A3-SP1	Wet flush/spring which appears in the open field and flows into D7 adjacent to conifer plantation. The flush support aquatic and emergent species including abundant broadleaved pondweed, occasional marsh St John's-wort, marsh thistle, bog starwort, greater bird's-foot trefoil, bedstraw sp, floating sweet-grass, brooklime, and creeping butter.
A3-SP2	Wet flush/spring which appears at the edge of conifer plantation and flows along low-lying land into a culvert which is piped under a field into Ditch 8. The channel is 1-1.25m wide with flat banks. Aquatic vegetation present includes abundant floating sweet-grass and water starwort sp, with occasional creeping bent broadleaved dock and common nettle.
A3-SP3	Wet depression within field at the far southern end of drain D8. Feels wet and spongy. May be due to leaking field drain. Seeps into drain D8.


Area 4 – Ditch Descriptions	
Ditch Numbers	Ditch Description
A4-D1	Partially beyond the Site boundary is a stream (Wyding Song) at the base of a steep sided North facing bank/valley. The stream bank is densely vegetated with broadleaved



Area 4 – Ditch Descriptions	
Ditch Numbers	Ditch Description
	woodland/scrub including ash (affected by ash die back), hawthorn, blackthorn. Holly, hazel, sycamore and oak sp. Grassland beneath supports fescue, cock's-foot, red campion, dandelion, lesser celandine and common dog violet., primrose and hogweed. The stream flows west to east direction and the end of the woodland bank the stream is culverted beneath the field to the north and reappears along the edge of H3 beyond the conifer plantation to the east. The stream channel is variable in width where it is visible on site it is heavily cattle poached in places.
A4-D2	Steep sided stream on the edge of the wood (located offsite). Banks are steep/vertical in places and at least 3m high, bare earth and moss covered with trees growing out of the banks. The channel is 1-1.5m wide and heavily overshadowed by woodland habitat. Much dead wood crossing the stream banks. Occasional opposite-leaved golden saxifrage , herb robert and bramble is present.
A4-D3	Shallow ditch along field edge, less than 1m wide and banks approximately 0.5m at the highest point. No open water, only damp mud. Likely to be wet for less than 4 months of the year. Abundant soft rush is present with occasional broadleaved dock.
A4-D4	A ditch flows from north to south along hedge boundary. Banks vary between 0.5m and 45degrees to almost flat and supporting typical field vegetation Yorkshire fog, perennial rye-grass, creeping bent with frequent soft rush, occasional broadleaved dock and marsh thistle. The channel is 0.5-1m with shallow water,0.10m. To the south where it adjoins the stream corridor the channel supports water starwort sp, floating sweet-grass and creeping buttercup.
A4-D5	Wet ditch with a slow flow. The channel is approximately 1m wide with cobbly substrate in places. Open section to the south supports water star -wort sp, floating sweet-grass, reed sweet-grass, round-leaved crowfoot, brooklime common water-plantain. Banks are steep and greater than 45° and are typically bare where overshadowed by dense scrub (hawthorn, blackthorn, bramble and elm sp). Banks to the south where not dominated by scrub support abundant Yorkshire fog, frequent cock's-foot, creeping bent with occasional tufted hair-grass, common nettle, creeping buttercup, common sorrel and common knapweed.
A4-D6	Partially dry ditch along associated with ornamental hedge and private driveway. The ditch is 0.5m wide with shallow banks supporting cocks'-foot, common nettle, broadleaved dock, wild angelica and lesser celandine. The ditch appears to hold some water due to the severe wet weather conditions.
A4-D7	Banks approximately 1m in places and 45° and support typical field vegetation Yorkshire fog, perennial rye-grass, creeping bent, soft rush, with occasional marsh valerian and meadow sweet. Fenced from sheep



Area 5 – Ditch Descriptions	
Ditch Numbers	Ditch Description
A5-D1	Dry/damp roadside ditch, less than 1m wide at the base. The ditch is shallow, and not likely to be wet all year. Overshaded by hedgerow and scrub.

Appendix 4


Appendix 4 – Waterbody Descriptions

Area 1: Waterbody Descriptions							
Waterbody Number	Distance from Areas 1-5					Description	Photo
	1	2	3	4	5		
A1-WB1	0.1km	0.26km	0.7km	>1km	>1km	Waterbody is approximately 4mx4m with a maximum water depth of c.0.3m. Banks are shallow, almost flat and support neutral grassland (unmanaged) comprising cock's-foot, creeping bent, common sorrel, black knapweed and soft rush. Emergent vegetation comprising soft rush, tufted hair-grass, meadowsweet and creeping bent covers 80% of the pond. A small amount of water starwort sp <i>callitriche</i> sp is present.	

Area 2: Waterbody Descriptions							
Waterbody Number	Distance from Areas1-5					Description	Photo
	1	2	3	4	5		
A2-WB1	320m	0m	>1km	>1km	>1km	Offsite - Area of open water in the corner of adjacent field in low lying land. Possibly seasonal due to high rainfall. Sparse soft rush tussocks appearing from within the field. Approximately 0.3m deep, shallow margins with no shade. Good terrestrial habitats in adjacent hedgebanks.	
A2-WB2	644m	65m	>1km	>1km	>1km	Farm yard pond. Located from aerial imagery. No access permission obtained to survey.	No photo
A2-WB3	660m	0m	>1km	>1km	>1km	Located within offsite woodland. No access permission.	No photo
A2-WB4	320m	0m	906m	>1km	>1km	Small pool within farm track. 4m x 2m supports aquatic vegetation ivy-leaved crowfoot and floating sweet-grass and occasional creeping bent. Tadpoles present.	

Area 2: Waterbody Descriptions							
Waterbody Number	Distance from Areas 1-5					Description	Photo
	1	2	3	4	5		
A2-WB5	816m	0m	>1km	>1km	>1km	Onsite pond, located within low lying area. Large 70m x 30m. Water from SP3 collects at this point. Maximum water depth is 0.15m. Some curled dock is present as emergent vegetation. No obvious aquatic vegetation. No obvious banks.	
A2-WB6	840m	1m	>1km	>1km	>1km	Open waterbody immediately adjacent to the site boundary. Water present within low lying ground, possibly seasonal. Shallow margins. Emergent vegetation located within the margins and within the center of the pond are soft rush, curled dock and creeping bent.	
A2-WB7	880m	100m	>1km	>1km	>1km	Large waterbody offsite within private land. No access permission obtained to survey.	No photo

Area 3: Waterbody Descriptions							
Waterbody Number	Distance from Areas 1-5					Description	Photo
	1	2	3	4	5		
A3-WB1	>1km	748m	135m	>1km	>1km	No access permission to view this pond. Pond located outside of Area 3 Site boundary and the wider application area.	No Photo

Area 4: Waterbody Descriptions							
Waterbody Number	Distance from Areas 1-5					Description	Photo
	1	2	3	4	5		
A4-WB1	>1km	>1km	>1km	10m	350m	No access permission to view the pond. Pond located outside the Site boundary (Area 4) and the wider area application boundary.	
A4-WB2	>1km	>1km	>1km	185m	820m	No access permission to view the ponds. Pond located outside the Site boundary (Area 4) and the wider area application boundary.	No photo
A4-WB3	>1km	>1km	>1km	277m	856m	No access permission to view the ponds. Pond located outside the Site boundary (Area 4) and the wider area application boundary.	No photo
A4-WB4	>1km	>1km	>1km	352m	810m	No access permission to view the ponds. Pond located outside the Site boundary (Area 4) and the wider area application boundary.	No photo


Area 5: Waterbody Descriptions



Waterbody Number	Distance from Areas 1-5					Description	Photo
	1	2	3	4	5		
A5-WB1	>1km	>1km	>1km	276m	274m	No access permission to view the ponds. Pond located outside the Site boundary (Area 4) and the wider area application boundary.	No photo
A5-WB2	>1km	>1km	>1km	330m	270m	No access permission to view the ponds. Pond located outside the Site boundary (Area 4) and the wider area application boundary.	No photo

Appendix 5


Appendix 5 Habitat Descriptions and Evaluation


Area 1

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<p><u>Modified Grassland</u> Large fields of species poor modified grassland. Fields are sheep grazed and support a short uniform sward comprising abundant perennial rye-grass <i>Lolium perenne</i>, occasional meadow grass sp <i>Poa</i> sp, smooth meadow-grass <i>Poa pratensis</i>, creeping bent <i>Agrostis stolonifera</i>, meadow foxtail <i>Alopecurus pratensis</i>, common mouse-ear <i>Cerastium fontanum</i>, Creeping buttercup <i>Ranunculus repens</i>.</p>	<p><u>Primary Code</u> Modified grassland (g4) <u>Secondary Code</u> Silage (110) Sheep grazed (102)</p>		n/a	Grassland is likely to be impacted by the installation of solar panels within the open fields. However, this habitat is common and widespread within a national and local context and considered to be of limited intrinsic ecological value.


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<u>Arable</u> A winter/early spring sown cereal crop.	<u>Primary Code</u> <u>Cereal crop (c1c)</u>		n/a	Cereal crop is likely to be lost as a result of the proposed development. This habitat is considered to be of low ecological value. No negative effects are considered likely.
<u>Arable</u> Recently re-seeded grassland. Very sparse.	<u>Primary Code</u> Temporary grassland leys (c1b)		n/a	A recently sown perennial rye -grass field. A lot of exposed soils. Considered to be of low ecological value. No negative effects are considered likely as a result of the proposed development.

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<p><u>Neutral Grassland</u></p> <p>Four small areas of other neutral grassland are present within Area 1. A small unmanaged field to the west of the site which is fenced comprises tussocky grassland with areas of scattered and dense bramble scrub. The grassland is supports frequent Yorkshire fog <i>Holcus lanatus</i>, creeping bent, fescue sp <i>Festuca</i> sp, common sorrel, and occasional meadow foxtail, cuckoo flower <i>Cardamine pratensis</i>, creeping thistle, dandelion <i>Taraxacum agg.</i> Lesser celandine <i>Ficaria verna</i>, common knapweed <i>Centaurea nigra</i>, silverweed <i>Potentilla anserina</i>.</p> <p>A second area is located within the southernmost field along the western boundary. A rectangular area of land is left unfarmed, possibly due to the impeded drainage and wet nature. This area of grassland in this area is tussocky and unmanaged with scattered hawthorn <i>Crataegus monogyna</i> and gorse <i>Ulex europeae</i> scrub. Grassland comprises frequent cock's-foot, Yorkshire fog and tufted hair-grass <i>Deschampsia cespitosa</i>, occasional common nettle, soft rush, common sorrel, cleavers.</p> <p>A third area is located along the western boundary adjacent to residential housing. The grassland is located within a hollow area. Very low-lying with steep banks and scattered scrub. The grassland is supports tussocky grassland with abundant cock's-</p>	<p><u>Primary Code</u> Other neutral grassland (g3c)</p> <p><u>Secondary Code</u> Rush dominant (15) Scattered rushes (16) Scattered Scrub (10)</p>		n/a	<p>Loss of grassland habitat may occur as a result of the proposed development. This habitat is of low ecological value and common and widespread in a national and local context. Any losses would be accounted for within the BNG metric.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<p>foot, frequent creeping bent, and hogweed and occasional red fescue, hard rush <i>Juncus inflexus</i>, broadleaved dock, lesser celandine, willowherb sp, common sorrel, hedge woundwort <i>Stachys sylvestris</i>, ribwort plantain and rarely occurring pignut <i>Conopodium majus</i>. Scrub species included gorse, elder and hawthorn.</p> <p>A fourth area is present along the banks of D2. The grassland supports a mixture of finer and coarser grasses, particularly at the southern end of the western bank. Here the grassland supports fescue sp, cock's-foot, meadow buttercup <i>Ranunculus acris</i>, creeping bent, occasional tufted hair grassland, field wood rush <i>Luzula campestre</i>, ribwort plantation <i>Plantago lanceolata</i>, carnation sedge <i>Carex flacca</i> and rarely occurring tormentil <i>Potentilla erecta</i>. A small number of anthills are present at the southern end of the ditch bank.</p>				

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<p><u>Other acid grassland</u> A small area of acid grassland located above the northern bank of stream at the southern end of the site. The grassland is heavily poached by highland cattle and sheep and comprises abundant fescue sp <i>Festuca</i> sp, frequent common bent <i>Agrostis capillaris</i> and sweet vernal grassland <i>Anthoxanthum odoratum</i> and occasional creeping buttercup and silverweed <i>Potentilla anserina</i>.</p>	<p><u>Primary code</u> Other acid grassland (g2d) <u>Secondary code</u> Scattered scrub (10) Cattle grazed. (101) Sheep grazed (102)</p>			<p>The majority of this grassland is likely to be retained as part of the buffer zone to the stream. The grassland does not qualify as s.41 priority habitat and is considered common habitat locally.</p>
<p><u>Tall ruderals</u> A patch of tall ruderal vegetation on a spoil heap, comprising common nettle, creeping thistle and occasional cock's-foot.</p>	<p><u>Primary Code</u> <u>Other neutral Grassland</u> (g3c) <u>Secondary code</u> Tall forbs</p>			<p>This habitat is typical of disturbed and nutrient rich ground. This habitat may be lost as a result of the proposed development; however, it is considered to be common and widespread both nationally and locally. No negative effects are considered likely as a result of the proposed development.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<p><u>Neutral Grassland</u> An area of wet grassland is located within the southernmost field. The grassland extends down the field margin to the corner of the field. Vegetation comprises abundant soft rush with frequent Yorkshire fog, creeping bent and occasional meadowsweet <i>Filipendula ulmaria</i>, angelica <i>Angelica sylvestris</i>, marsh valerian <i>Valeriana dioica</i>, creeping buttercup and jointed rush <i>Juncus articulatus</i>.</p>	<p><u>Primary Code</u> Holcus juncus neutral grassland (g3c8).</p> <p><u>Secondary Code</u> Rushes dominant (15) Scattered rushes (16) Waterlogged (503) Wet (508)</p>		n/a	<p>This area may be impacted by the proposed development. However, this habitat is common and widespread in a national and local context.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
Area 1				
<p><u>Native Hedgerow</u> Thirteen native hedgerows are present within Area 1 (H1-H13). All hedgerows are mature with majority located upon a raised hedge bank with evidence of being historically laid. The majority of hedgerows are defunct and gappy. Some have standard trees, notably ash <i>Fraxinus excelsior</i> and oak <i>Quercus</i> sp. Ash is noticeably affected by ash die back disease. A full schedule of hedgerow descriptions is given in Appendix 2 and are shown on drawing LSF-SR07 - 00004 Figure 7.4.1-7.4.5</p>	<p><u>Primary Code</u> Native hedge (h2a)</p> <p><u>Secondary code</u> Hedge with trees (11) Ditches (50)</p>		s.41	<p>The intention is to retain all hedgerows shall be retained within the site, although small amounts of hedgerow loss may occur to facilitate access/cable routes. Hedges are all s.41 and LBAP priority habitat of principal importance.</p>
<p><u>Non-native Hedgerow</u> A small section c10m in length of leylandii hedge (A1-H14) is present along the boundary between site and a residential property.</p>	<p><u>Primary Code</u> Non-native/ornamental hedge (h2b)</p>	No photo	n/a	<p>This habitat is located along a residential garden boundary which shall be retained. No negative effects are considered likely.</p>
<p><u>Dense Scrub</u> Dense and scattered patches of bramble and gorse scrub along the edge of the field. Scrub is encroaching into the open grassland.</p>	<p><u>Primary Code</u> Bramble scrub (h3e)</p>	No photo	n/a	<p>It is likely that this habitat shall be lost as a result of the proposed development. This habitat is common and widespread in a national and local context. No</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
				negative effects are considered likely.
<u>Track</u> Hardcore and/or bare earth/unvegetated tracks/access routes. Located at a number of field entrances on site.	<u>Primary code</u> Built linear feature (u1e)	No photo	n/a	Negligible ecological value. If lost to development, no negative effects considered likely.
<u>Manure heap.</u> Large manure heap in the corner of the field. Stockpiled to spread on the fields, later in the season. No vegetation present.	<u>Primary Code</u> Artificial, unvegetated, unsealed surface. Secondary Code	No photo	n/a	This habitat is temporarily stored for use on the fields. No ecological interest. No negative impacts shall occur as a result of the loss of this manure heap.


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<p><u>Stream</u> One stream (A1-D3) is located outside the side boundary by 2m at its closest point. The stream is shallow with a slow to moderate flow. The banks are steep and predominantly bare earth and lined with trees scrub. Grazing cattle have poached the embankments.</p>	<p><u>Primary Code</u> Other rivers and streams (r2b) <u>Secondary Code</u> Ditches (50)</p>			<p>No direct impacts are anticipated to the stream habitat. Indirect impacts through pollution /sediment run off may occur without appropriate mitigation.</p>



Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
Area 1				
<p><u>Ditches</u> Two ditches (A1-D1 and A1-D2) are present on site and run along the central hedgerow boundary. For this reason, they are mapped as an associated hedgerow feature in UK hab. However, a plan of all the ditches and streams on site are shown on drawing no. LSF-SR07-0005-Figure7.5</p>	<p><u>Primary Code</u> Hedge (h2a)</p> <p><u>Secondary Code</u> Ditch (50) Mature tree (203)</p>			<p>No direct impacts are anticipated to the ditch habitat. Indirect impacts through pollution /sediment run off may occur without appropriate mitigation.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<u>Area 1</u>				
<p><u>Waterbodies</u> One pond A1-WB1 is located immediately adjacent to the application boundary. A full description is provided within Appendix 4.</p>	<p><u>Primary code</u> Other standing water (R1g)</p> <p><u>Secondary code</u></p>			

Area 2

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 2				
<p><u>Species poor grassland</u> Large fields comprising species poor grassland with short and tightly grazed swards. Grassland comprises abundant perennial rye-grass, frequent white clover and soft rush, occasional Yorkshire fog, creeping bent, cock's-foot, daisy, and creeping buttercup.</p> <p>Two springs (A2-SP1 – A2-SP3) are also present on site and are described in the Description of Ditches and Springs given as Appendix 3.</p>	<p><u>Primary Code</u> Modified grassland (g4)</p> <p><u>Secondary codes</u> Sheep grazed. Scattered rushed (16) Springs (305)</p>			<p>Grassland is likely to be impacted by the installation of solar panels within the open fields. However, this habitat is common and widespread within a national and local context and considered to be of limited intrinsic ecological value.</p>
<p><u>Neutral grassland</u> To the south of Area 2 are three fields comprising other neutral grassland vegetation. A small grassland field is present to the south of Furnace House. Here the grassland is tussocky and unmanaged, possibly formerly grazed. Frequent Perennial rye-grass, cock's-foot, and occasional creeping buttercup. Stands of tall ruderal vegetation namely broadleaved dock, common nettle is present. Two further fields are located to the south-east of the site. Both are very tightly sheep grazed with a short sward. This grassland has more diversity than other sheep grazed grassland on site and comprises abundant perennial rye-grass and Yorkshire fog, frequent creeping bent, common sorrel, yellow rattle <i>Rhinanthus</i></p>	<p><u>Primary Code</u> Other neutral grassland (g3c)</p> <p><u>Secondary Code</u> Sheep grazed (102) Scattered rushed (16) Tall forbs(16)</p>			<p>Grassland is likely to be impacted by the installation of solar panels within the open fields. However, this habitat is common and widespread within a national and local context and considered to be of limited intrinsic ecological value.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<p>AREA 2</p> <p><i>minor</i>, cat's-ear <i>Hypochaeris radicata</i> and occasional daisy, self heal <i>Prunella vulgaris</i> and common mouse-ear <i>Cerastium fontanum</i>.</p> <p>One spring (A2-SP2) is present within the neutral grassland field. This spring occurs within close proximity to the site boundary and flows offsite. A description of the spring is provided within the Ditches and Springs Description is given as Appendix 3</p>				
<p><u>Arable – ploughed.</u></p> <p>Large field that has been recently ploughed and supports bare ground.</p>	<p><u>Primary code</u> Arable (c1)</p> <p><u>Secondary code</u> Ploughed (600)</p>			<p>This habitat is common and widespread in a national and local context. No negligible effects are considered likely as a result of the proposed works.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 2				
<p><u>Native hedgerow</u></p> <p>Forty-two hedgerows (A2-H1-A2-H42) are present within Area 2. All are mature and the majority located upon a hedgebank. or stone-faced bank. Species generally comprise abundant hawthorn. Other less frequent occurring species include elm sp <i>Ulmus</i> sp, elder <i>Sambucus nigra</i>, gorse, dog rose, blackthorn, apple sp <i>Malus</i> sp.</p> <p>Hedge bottom flora comprises a range of species, those that were not grazed and fenced supported greater stitchwort, moschatel <i>Adoxa moschatellina</i>, wood false-brome <i>Brachypodium sylvaticum</i> and lesser celandine. Those that were typically grazed supported less diverse hedge bottom flora and typically those species that were present within the field such as perennial rye-grass, common nettle and cleavers.</p> <p>A full schedule of hedgerow descriptions for Area 2 is given in Appendix 2 and are shown on drawing LSF-SR07-0004-Figure7.4</p>	<p><u>Primary Code</u></p> <p>Native hedgerow (h2a)</p> <p><u>Secondary Code</u></p> <p>Hedgebank (111) Stone faced bank (113) Species rich hedgerow groundflora (118)</p>	 	s.41	<p>Minor hedgerow loss may occur to facilitate access routes/cable routes. All hedgerows are priority habitats of principle importance. Loss of hedgerows would result in a negative effect on biodiversity.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 2				
<p><u>Ditches (component part of hedgerows)²³</u> Four ditches (A2-D1, A2-D2, A2-D4 and A2-D5) are present on site and run along associated hedgerow boundaries. For this reason, they are mapped as an associated hedgerow feature in UK hab. However, a plan of the ditches on site are shown on the waterbody location plan given as drawing no. LSF-SR07-0005-figure7.5.</p>	<p><u>Primary code</u> Native hedgerow (h2a)</p> <p><u>Secondary codes</u> Ditch (50) Spring (305) Scattered scrub (10)</p>			<p>No direct impacts are anticipated to the ditch habitat, as all ditches and hedgerow boundaries shall be retained. Indirect impacts through pollution /sediment run off may occur without appropriate mitigation.</p>


²³ Ditches that are part of the structure of a hedgerow or line of trees and within 2m of it.


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 2				
<p><u>Streams</u></p> <p>One open stream (A2-D3) is present to the south-east of the site. The stream flows from an offsite woodland area in the southwest and flows eastwards. It exits the site via a culvert on the eastern boundary. The stream is variable in width 0.5-1m wide with shallow water. The channel supports frequent soft rush, floating sweet-grass, and occasional brooklime. The banks too are shallow, less than 45 degrees and support field vegetation such perennial rye-grass, creeping bent, creeping buttercup and white clover. The grassy banks a short sward and are grazed by sheep.</p>	<p><u>Primary code</u></p> <p>Other rivers and streams (r2b)</p>			<p>No direct impacts are anticipated to the ditch habitat, as all ditches and hedgerow boundaries shall be retained. Indirect impacts through pollution /sediment run off may occur without appropriate mitigation</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 2				
<p><u>Dense scrub</u> Dense patch of gorse scrub extending from former hedgerow boundary into the open field. Scrub is dense and mature.</p>	<p>Primary code Dense gorse scrub (h3e)</p>			<p>Scrub areas may be lost as a result of the proposed development. This habitat is, however, common and widespread.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<p>AREA 2</p> <p><u>Waterbodies</u> Seven waterbodies are present on site and within 250m of the application boundary. The majority are located offsite. A full description of waterbodies (where they have been accessible) is provided within Appendix 4.</p>	<p><u>Primary code</u> Other standing water (r1g)</p>			<p>This pond/waterbody habitats on site does not meet the criteria as s.41 Priority habitats. The majority of ponds especially ones located outside the application boundary shall be retained. A small number may be lost as a result of the proposed works. This habitat is considered to be common and widespread, but their losses for biodiversity shall be accommodated within the BNG metric.</p> <p>For those that are to be retained, indirect impacts through pollution such as sediment run off may occur without appropriate mitigation.</p>

Area 3


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Species poor grassland</u> Area 3 is predominantly modified grassland. The entire area is seasonally wet. Drier fields support short tightly grazed modified grassland, wetter fields have frequently occurring juncus patches that the sheep graze around. Grassland vegetation is species poor and dominated with abundant perennial rye-grass, frequent Yorkshire fog, and occasional white clover, meadow foxtail, creeping bent, creeping buttercup, common mouse-ear, broadleaved dock and common sorrel.</p> <p>Two springs/wet flushes (A3-SP1 and A3-SP2) are present within the grasslands immediately adjacent to drain habitats. A3-SP1 is located adjacent to a drain, water emerges from the open field and runs adjoins drain A3-D7. The flush appears to support aquatic vegetation, floating sweet-grass, broadleaved pondweed <i>Potamogetan natans</i>. Emergent vegetation comprises a range of neutral to acidic plants including occasional marsh St John’s-wort <i>Hypericum eloidies</i>, bog starwort <i>Callitriche Stagnalis</i>, greater bird’s-foot trefoil and bedstraw sp, <i>Galium</i> sp.</p>	<p><u>Primary Code</u> Modified grassland (g4)</p> <p><u>Secondary codes</u> Sheep grazed Scattered rushed (16) Springs (305)</p>	 <p>g4 modified grassland habitat</p>		<p>Grassland is likely to be impacted by the installation of solar panels within the open fields. However, this habitat is common and widespread within a national and local context and considered to be of limited intrinsic ecological value.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p>Flush (A3-SP2) starts adjacent to the south of Drain A3-D8. The grassland becomes boggy underfoot but supports field vegetation. No obvious aquatics visible. The wet ground seeps into A3-D8. Spring/flushes are shown on LSF-SR07-0005-Figure7.5</p> <p>A field margin of modified grassland is present around an arable field to the south-west of Stargill Farm, this appears to have been cut and is currently cattle grazed.</p>		 <p>SP1- spring/wet flush adjacent to D7</p>		


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3		 <p>g4 modified grassland field margin, heavily poached.</p>		


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Neutral grassland</u></p> <p>Three areas of <i>Holcus Juncus</i> grassland are present in the central areas of the site. A field to the west and east of Stargill Farm supports <i>Holcus Juncus</i> dominated grassland. Here the fields are dominated with Yorkshire fog and soft rush, with frequent meadow foxtail, creeping bent, occasional tufted hair -grass, white clover and perennial rye-grass and rarely occurring <i>Molinia</i> and ragged robin <i>Lychnis flos-cuculi</i>.</p> <p>A third field to the north-east of Stargill Farm and forms a mosaic with <i>Deschampsia</i> grassland and purple moor grass rush pasture (also described separately below. This grassland is significantly wetter with slight acidic influences and supports abundant soft rush, frequent Yorkshire fog, creeping buttercup, jointed rush, occasional meadow foxtail, carnation sedge, marsh thistle, lesser spearwort <i>Ranunculus flammula</i>, creeping bent, greater bird's-foot trefoil, marsh valerian, sheep's fescue <i>Festuca ovina</i>, common knapweed, heath bedstraw <i>Galium saxatile</i> and ragged robin.</p>	<p><u>Primary Code</u></p> <p>Holcus Juncus Neutral grassland (g3c8)</p> <p><u>Secondary codes</u></p> <p>Tall or tussocky sward (128)</p>			


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Neutral Grassland</u> Two areas of <i>Deschampsia</i> grassland are present within the central areas of the site. One is located within a field to the west and is a mosaic of both <i>Holcus juncus</i> and <i>Deschampsia</i> grasslands. Areas of <i>Deschampsia</i> grassland are dominated by tufted hair -grass- <i>Deschampsia</i> with frequent soft rush, Yorkshire fog and creeping bent meadow and creeping buttercup and occasional greater bird's-foot trefoil. The grassland is damp underfoot.</p> <p>A second area is located to the east of Stargill farm here the grassland is very tussocky with abundant rushes (both soft and jointed rush) tufted hair-grass, frequent Yorkshire fog and meadow foxtails. The field was grass dominant with <5% herbs which included common sorrel, broadleaved dock and marsh thistle.</p>	<p><u>Primary Code</u> Deschampsia Neutral grassland (g3c7)</p> <p><u>Secondary Codes</u> Tall or tussocky sward (128) Ditch (50) Stone wall (114)</p>			



Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Neutral Grassland</u> Smaller fields and drier areas of grassland support species poor neutral grassland. A small field to the west which is fenced supports an unmanaged area of grassland dominated by Yorkshire fog with frequent areas of bare ground, dock sp <i>Rumex</i> sp, creeping buttercup and curled dock. The field looks as though it has been recently disturbed and is now regenerating naturally. Currently unmanaged.</p> <p>A field to the south-east of Stargill Farm supports a neutral grassland vegetation. The field is subdivided by a stone wall which is now defunct and resembles a raised bank. Vegetation to the west of the wall support grassland with abundant perennial rye-grass frequent meadow-grass sp <i>Poa</i> sp. And cock's-foot with occasional tufted hair-grass, Yorkshire fog and common bent <i>Agrostis capillaris</i> and red fescue with lesser celandine, common sorrel, crosswort <i>Cruciata laevipes</i> and rarely occurring meadowsweet, creeping and meadow buttercup, cleavers. Land to the east of the stone wall is similar with a greater abundance of cock's-foot, tufted hair-grass and Yorkshire fog. Additional species recorded in this area include field wood-rush and common mouse-ear.</p> <p>A small area of neutral grassland which is irregularly cut, is located to the north of Lostrigg</p>	<p><u>Primary Code</u> Other neutral grassland <u>(g3c)</u></p> <p><u>Secondary code</u> Unmanaged (521)</p> <p><u>Secondary code</u> Cattle grazed (101) Ditch (50) Stone wall (114)</p>			<p>This habitat is common and widespread both nationally and locally. No negative effects are considered likely.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<p>AREA 3</p> <p>Beck, here the vegetation supports abundant Yorkshire fog, with occasional lesser celandine, broadleaved dock and soft rush. Scattered hawthorn scrub and young rowan <i>Sorbus aucuparia</i> is present on the bank.</p> <p>A smaller parcel of drier neutral grassland is present within the <i>Deschampsia</i> field to the north-east of Stargill Farm which comprises abundant meadow foxtail, cock's-foot and frequent Yorkshire fog. The grassland is herb poor with less than 5 % herbs with creeping buttercup, common sorrel and broadleaved dock.</p>	<p><u>Secondary codes</u> Scattered scrub (10) Scattered rushes (14)</p>			


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Purple Moor-grass and rush Pastures</u></p> <p>Area of damp tussocky grassland with abundant purple moor-grass <i>Molinia caerulea</i>, frequent tufted hair-grass, soft rush and occasional jointed rush, this area is herb poor with occasional common sorrel, devil's bit scabious, marsh valerian and creeping buttercup. This grassland is currently under a stewardship scheme with low density cattle grazing for the benefit of Marsh Fritillary butterflies.</p>	<p><u>Primary code</u> <i>Purple Moor Grass and Rush Pastures</i> (f2b)</p> <p><u>Secondary Code</u> Rushed dominant (15) Cattle grazed (101)</p>		s.41	<p>This area of grassland may be directly impacted by the installation of solar panels under the current scheme. This habitat is a priority habitat of principle importance and the loss or change to the habitat may result in a significant adverse effect.</p>
<p><u>Poor Acid Grassland</u></p> <p>A drier grass dominated area within a field of <i>Holcus Juncus</i> grassland. Vegetation comprises abundant tufted hair grass with frequent sheep's fescue, Yorkshire fog, and meadow foxtail, wood rush sp <i>Luzula sp</i> and occasional heath bedstraw <i>Galium saxatile</i>, ribwort plantain, dandelion agg. creeping buttercup and marsh thistle.</p>	<p><u>Primary Code</u> Other acid grassland</p>	No photo		<p>This area does not meet the criteria for lowland acid grassland priority habitat due to the lack of species diversity. In isolation this habitat is of lower ecological value however, as a component of the mosaic of habitats that surrounds it, it has greater value.</p> <p>Any losses of this habitat shall be accounted for within the BNG metric.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Arable</u> Large formerly arable field which has been left fallow. Supports occasional Yorkshire fog, perennial rye-grass, creeping buttercup and bittercress sp. Cattle grazed. Ground is 50% bare mud, very damp and heavily poached.</p>	<p><u>Primary code</u> Arable (c1) <u>Secondary code</u> Fallow (604) Cattle grazed (101)</p>			<p>This habitat is common and widespread in a national and local context. No negative effects are considered likely as a result of the proposed development.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Ditches (component of hedgerows/line of trees)</u>¹⁷</p> <p>A series of ditches (A3-D1, A3-D2, A3-D4, A3-D5, A3-D7, A3-D8, A3-D9, A3-D10, A3-D11, A3-D12) are present within Area 4 that are component parts of the associated hedges which are located immediately adjacent.</p> <p>Majority of ditches are c1m wide and are likely to be only seasonally wet (wet <4months of the year). All ditches wet, seasonally wet or dry are listed and described within Appendix 3.</p>	<p><u>Primary code</u></p> <p>Native hedge (h2a)</p> <p>Other broadleaved woodland (w1g)</p> <p><u>Secondary Codes</u></p> <p>Ditches (50)</p> <p>Line of trees (33)</p>			<p>Indirect impacts such as pollution through sediment run-off may occur without appropriate mitigation measures.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Ditches (habitat in own right)</u> Ditch (A3-D3) are habitat that are mappable in their own right as they are not a component part of a hedge and are wet for more than 4 months of the year.</p> <p>A3-D3 is canalised in part where it runs through the plantation woodland and is culverted beneath the private access track to Stargill farm.</p>	<p><u>Primary code</u> Other standing water (r1g)</p> <p><u>Secondary codes</u></p>			<p>Indirect impacts such as pollution through sediment run-off may occur without appropriate mitigation measures.</p>
<p><u>Rivers</u> The Lostrigg Beck is a River that runs south to north through the site. The section that runs through Area 3 is not situated in steep sided valley. The river is demarcated by a post and wire fence throughout, however, in sections sheep are able to access the river corridor to graze. The section of river to the north of Stargill farm has recently been fenced to restrict cattle access to the riverbanks (possibly part of a wider stewardship scheme). The river is c 3-5m wide with a variable flow and depth. Ranging from 0.2- 0.5m in the deep pools. The channel is meandering with banks 1.2-1.5m high and c.45 degrees and steeper, sometimes vertical in places. The bank tops are lined with</p>	<p><u>Primary code</u> Other rivers and streams (r2b)</p>		s.41	<p>This habitat is likely to qualify as Priority habitat of principle importance. The river corridor shall be retained with an appropriate buffer (likely to be a minimum 15m). No direct impacts are likely to occur as a result of the proposed development. Indirect impacts such as pollution through sediment run off may occur without appropriate mitigation.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p>broadleaved woodland supporting abundant young to semi-mature Ash, generally deceased or badly affected by ash die back; other species include elm sp, beech, oak sp, with hawthorn and willows p. The ground flora comprises abundant cock's-foot, with frequent creeping bent and soft rush and occasional red campion, foxglove, primrose <i>Primula vulgaris</i>, lesser celandine, germander speedwell <i>Veronica chamaedrys</i>, wood forget-me-knot <i>Myosotis sylvatica</i>, pendulous sedge <i>Carex pendula</i>, ramsons <i>Allium ursinum</i>, opposite leaved golden saxifrage <i>Chrysosplenium oppositifolium</i>, wood anemone <i>Anemone nemorosa</i>, hedge woundwort <i>Stachys sylvatica</i>, bush vetch, wood sorrel <i>Oxalis acetosella</i> and rarely occurring moschatel.</p>				
<p><u>Hedgerows</u> A total of thirty-four hedgerows are present within Area 3. The majority are mature and located either on a walled embankment or a hedgebank. A small number of hedgerows have been felled and a newly planted hedgerow replanted on top of the existing Hegde bank.</p> <p>A full schedule of hedgerow descriptions for Area 3 is given in Appendix 2 and are shown on drawing LSF-SR07-0004-Figure7.4</p>	<p><u>Primary code</u> Native hedge (h2a) <u>Secondary Codes</u> Hedge with trees (11) Hedge bank (612) Fence (612)</p>		s.41	<p>All native hedgerows are considered to be priority habitat. All linear field boundaries shall be retained and enhanced as part of the proposed development and therefore there shall be no direct impacts/loss. Therefore, no negative effects are considered likely.</p>


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Broadleaved Woodland</u> Broadleaved woodland lies immediately adjacent to the Lostrigg Beck. The woodland appears to support hazel coppice with standards of ash, oak spp, wild cherry <i>Prunus avium</i>, whitebeam <i>Sorbus aria</i>, elm spp with occasional hawthorn, elder <i>Sambucus nigra</i>. The ground flora is heavily sheep grazed to a short sward, with Yorkshire fog, creeping bent and lesser celandine.</p>	<p><u>Primary code</u> Lowland broadleaved woodland (w1g7)</p> <p><u>Secondary code</u> Coppice with standards (211)</p>		s.41	<p>This habitat is priority habitat of principle importance. This habitat shall be retained in full with a minimum 15m buffer around the periphery. No negative effects are considered likely.</p>
<p><u>Conifer Plantation</u> Three Scot's pine plantations are present on site, one in the centre of the site to the south of Stargill farm, the second adjoins an area of broadleaved woodland near to Lostrigg Beck and the third is located along the eastern boundary of the site to the north of Outgang Farm. The smaller plantation located centrally comprises abundant Scot's pine with occasional</p>	<p><u>Primary code</u> Other Scot's Pine Woodland (w2b)</p> <p><u>Secondary Code</u> Sheep grazed (102) Ecotone (530) Spring (305)</p>			<p>All woodland habitats shall be retained on site with aa 15m buffer as a minimum. Therefore, no direct or indirect effects are considered likely as a result of the proposed development.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<p>AREA 3</p> <p>Sitka spruce <i>Picea sitchensis</i>, with blackthorn around the margins, no ground flora is present due to the densely shading nature of the canopy.</p> <p>A small plantation adjoins an area of broadleaved woodland to the north of Lostrigg Beck. The woodland supports abundant Scot's pine with occasional young Oak sp. No ground flora is present with the exception of sparse common nettle. A large pheasant pen is present within the wood.</p> <p>The third plantation is larger and rectangular in shape supports predominantly Scot's pine with hawthorn and gorse located around the margins. The canopy appears to be more open around the edges where grassland is present. Species include fescue sp, and <i>Rhytidiadelphus squarrosus</i>. Areas of grassland are sheep grazed and poached in places.</p> <p>A wet flush (A3-SP2) is present within the woodland, the flush appears from the field outside of the application boundary. Water flows through the plantation to a culvert on the edge of the woodland. There are no obvious banks, the channel appears to be 1-1.1m wide with a water depth is 0.1-0.2m deep. Floating sweet-grass and water starwort sp occur frequently with occasional creeping bent</p>				

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
<p>AREA 3</p> <p>broadleaved dock and common nettle. Water from this spring is culverted to the drain A3-D8.</p>				


Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Conifer plantation</u></p> <p>Three parcels of plantation woodland are present on site. A small parcel is located to the west which supports Sitka spruce. There is very little ground flora due to the heavy shading from the canopy. Sparse bramble and common nettle around the edges.</p> <p>A linear strip of conifer plantation is located along the edge of an internal farm access track. (also, to the west of the site). Here the plantation is more mixed with Scot's pine, Sitka spruce and occasional ash, oak, beech sycamore seedlings, willow sp and hawthorn. Ground flora is limited with bramble, common nettle, tufted hair-grass, moss sp and rarely occurring angelica.</p> <p>The planation that is located adjacent to the Lostrigg beck adjoins an area of broadleaved woodland (forming an ecotone). Here the planation supports abundant Sitka spruce, frequent Scot's pine, with a hawthorn understory. The ground flora comprises abundant bramble, occasional Yorkshire Fog, ribwort plantain, herb Robert <i>Geranium robertum</i>, wood avens <i>Geum urbanum</i> and honeysuckle <i>Lonicera periclymenum</i>. As the woodland merges with the broadleaved woodland species of ash, sycamore and wild cherry are present. Ground flora close to the riverbank supports opposite leaved golden saxifrage, bugle <i>Ajuga reptans</i> and primrose.</p>	<p><u>Primary code</u></p> <p>Other conifer woodland (w2c)</p> <p><u>Secondary Code</u></p> <p>Ecotone (530)</p> <p>Ditch (50)</p>			<p>All woodland habitats shall be retained on site with a 15m buffer as a minimum. Therefore, no direct or indirect effects are considered likely as a result of the proposed development.</p>



Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p>In addition, a small strip of Scot's pine trees are located along the northern boundary.</p>				
<p><u>Line of trees</u> A line of mature beech trees is present along an internal field boundary comprising a stone walled embankment and wet ditch. Occasional young hawthorn and gorse is also present. Banks are primarily bear with moss and bramble. Bank top vegetation comprises sheep's fescue, occasional purple moor-grass, tufted hair grass, yarrow, field wood-rush and lesser celandine.</p>	<p><u>Primary Code</u> W1g (33) line of trees Line of trees (33) Scattered scrub (10)</p>			<p>The linear field boundary features shall be retained and incorporated into the design scheme. No negative effects are anticipated as a result of the proposed development.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 3				
<p><u>Track</u> Bare earth track and private tracks that have been surfaced with hardcore are present around the site.</p>	<p><u>Primary Code</u> Built linear feature (u1e)</p> <p><u>Secondary Code</u> Track (839) Stone faced bank (113)</p>			<p>This habitat is considered to be of intrinsically low ecological value. No negative effects are anticipated as a result of the proposed development.</p>


Area 4

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 4				
<p><u>Species poor grassland</u> Areas of species poor grassland typically dominated by perennial rye grass, with occasional species of Yorkshire fog, creeping bent meadow-grass and tufted hair-grass. Wetter areas support frequent soft rush.</p> <p>Fields to the east are wet, heavily horse grazed and poached.</p>	<p><u>Primary Code</u> Modified grassland (g4)</p> <p><u>Secondary codes</u> Sheep grazed (102) Horse grazed (103) Scattered rushed (16) Springs (305)</p>			<p>Grassland is likely to be impacted by the installation of solar panels within the open fields. However, this habitat is common and widespread within a national and local context and considered to be of limited intrinsic ecological value.</p> <p>Any losses shall be accommodated within the Biodiversity Metric.</p>
<p><u>Neutral grassland</u> Two areas of <i>Holcus juncus</i> grassland are present on site. Both are species poor and are seasonally wet. Both areas are heavily horse grazed. The area adjacent to the stream in the centre of the site is more tussocky in appearance. The field adjacent to the road is heavily poached and trampled. Species include abundant Yorkshire fog and soft rush, frequent creeping bent, common sorrel, marsh thistle angelica meadowsweet and curled dock.</p>	<p><u>Primary code</u> <i>Holcus juncus</i> neutral grassland (g3c8)</p> <p><u>Secondary Code</u> Horse grazed (103) Scattered rushes (14) Seasonally wet (502) Sheep grazed (102)</p>			<p>Grassland habitats shall be lost or impacted by placement of solar panels and associated infrastructure. This habitat is common and widespread in a national and local context. However, any losses a shall be accounted for in the BNG metric.</p>
<p><u>Neutral Grassland</u> Small corner of the field that is dominated by tufted hair grass tussocks. Appears wetter than the rest of the field. Also supports frequent</p>	<p><u>Primary Code</u> Deschampsia grassland (g3c7)</p> <p>Secondary Codes</p>			<p>Grassland habitats shall be lost or impacted by placement of solar panels and associated infrastructure. This habitat is common and widespread in a national and local context.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 4				
<p>creeping bent, perennial rye-grass, with some floating sweet-grass in the wetter areas.</p>	<p>Seasonally wet (502) Sheep grazed (102)</p>			<p>However, any losses a shall be accounted for in the BNG metric.</p>
<p><u>Woodland</u> No woodland is present within the application boundary, but three types of woodland are located immediately adjacent. Broadleaved woodland is located along the centre of the western site boundary. The mixed woodland is connected to the Broadleaved woodland. The linear strip of woodland runs parallel to the western boundary (northern most section). It appears to have been felled with remnants of Scot's pine, sycamore, hawthorn and gorse scrub remaining. Two conifer plantations are located adjacent to the northern and eastern boundaries. The plantations comprise Scot's pine to the north and a mix of conifer species Spruce and Scot's pine to the est.</p>	<p><u>Primary Code</u> Other Lowland broadleaved woodland (w1f7) Other coniferous woodland (w2c) Other woodland Mixed (w1h)</p>		<p>s.41</p>	<p>A 15m (minimum) buffer shall be retained around woodland boundary features. No direct or indirect effects likely. No negative effects shall occur as a result of proposed works.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 4				
<p><u>Hedgerows</u> Eleven hedgerows are present within Area 4 (A4-H1-A4-H11). Ten of which (A4-H1-A4-H8, A4-H10 and A4_H11) are native hedges. All hedgerows are mature. At least half are gappy and defunct. One hedge (A4-H9) is a non-native hedge along a residential driveway.</p> <p>A list and description of each of the hedgerows is provided within Appendix 2</p>	<p><u>Primary Code</u> Native hedge (h2a) Non-native hedge (h2b)</p> <p><u>Secondary Code</u> Hedge with trees (11) Hedgebank (111) Ditches (50)</p>		s.41	All hedgerows shall be retained and incorporated into the proposed development with a buffer. No negligible effect is considered likely.
<p><u>Dense Scrub</u> Areas of dense scrub are present along the field boundaries. Scrub in the centre of the site is mixed scrub comprising hawthorn, willow sp, blackthorn and gorse. Dense scrub in the corner of a field along the north-eastern boundary is bramble scrub and scrub located along the eastern boundary adjacent to a residential property is ornamental (<i>Spirea</i> sp)</p>	<p><u>Primary code</u> Mixed Scrub (h3h) Bramble Scrub (h3d) Dense scrub (h3)</p> <p><u>Secondary codes</u> Native (522) Non-native (523)</p>			Scrub areas may be lost to facilitate solar arrays. This habitat is common and widespread in a national and local context. Any losses of scrub shall be accounted for within the BNG Metric.
<p><u>Mature Tree</u> Mature sycamore located within the centre of the field. The tree has fallen but is still alive and growing.</p>	<p><u>Primary code</u> n/a</p> <p><u>Secondary Code</u> Mature tree (203)</p>	No Photo		All mature trees on site within the application area shall be retained with an appropriate buffer. No direct or indirect effects are anticipated.

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 4				
<p><u>Stream</u> An offsite stream flows from the west in an easterly direction and merges with the Wythenmoor Sough drain. At the western most end, the stream is located at the base of a steep scrub and tree lined embankment. As the stream flows through the more central areas of the site the banks reduce in size and open out. The majority of the stream is tree/scrub lined. A more open section supports water crow-foot sp <i>Ranunculus</i> sp, with floating sweet-grass, water speedwell <i>Veronica anagallis-aquatica</i> reed sweet-grass, Banks to the north support more scrub and banks to the south support Yorkshire fog, creeping bent, soft rush, tufted hair-grass common nettle and common knapweed.</p>	<p><u>Primary code</u> Other rivers and streams (r2b)</p>		<p>n/a</p>	<p>This habitat shall not be directly impacted. This stream corridor shall be retained with a minimum 15m buffer. No direct impacts are considered likely.</p> <p>Indirect impacts such as pollution through sediment run off may occur without appropriate mitigation.</p>



Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 4				
<p><u>Ditches</u> ¹⁷</p> <p>The majority of ditches on site are considered to be an associated feature of the hedgerows. All ditches whether wet or dry are mapped on the waterbody location plan LSF-SR07-0005-Figure7.5and described in Appendix 3</p>	<p><u>Primary code</u></p> <p>Native hedges (h2a)</p> <p><u>Secondary codes</u> Ditch (50)</p>		<p>n/a</p>	<p>All hedge and ditch features shall be retained. Therefore, no direct impacts are considered likely.</p> <p>Indirect impacts such as pollution through sediment run off may occur without appropriate mitigation.</p>

Area 5

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 5				
<p><u>Species poor grassland</u> Area 5 consists of two fields of sheep grazed modified grassland. Species consisted of dominant perennial rye <i>Lolium perenne</i>, occasional cock's foot <i>Dactylis glomerata</i> and rush <i>Juncus spp.</i>, and rarely occurring broadleaved dock <i>Rumex obtusifolius</i> and common sorrel <i>Rumex acetosa</i>.</p>	<p><u>Primary Code</u> Modified grassland (g4) <u>Secondary code</u> Sheep grazed (102)</p>		<p>n/a</p>	<p>Grassland is likely to be impacted by the installation of solar panels within the open fields. However, this habitat is common and widespread within a national and local context and considered to be of limited intrinsic ecological value.</p> <p>Any losses shall be accommodated within the Biodiversity Metric.</p>

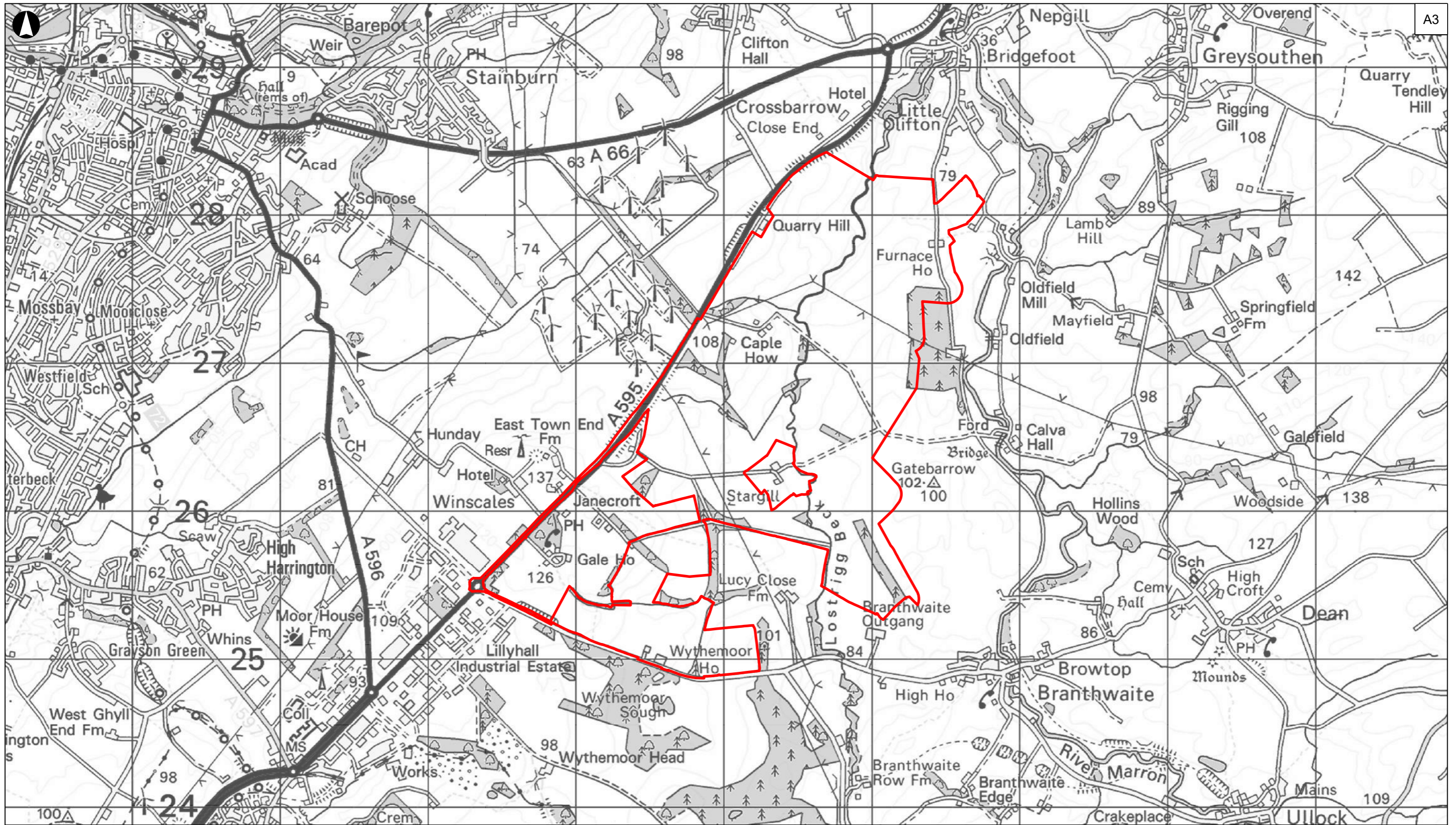
Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 5				
<p>Hedgerows</p> <p>Four mature hedgerows are present within Area 5. All hedges are gappy and defunct.</p> <p>A list and description of each of the hedgerows is provided within Appendix 2</p>	<p><u>Primary Code</u> Native hedge (h2a)</p> <p><u>Secondary Code</u> Hedge with trees (11) Ditch (50)</p>		<p>s.41</p>	<p>All hedgerows and linear boundaries shall be retained with an appropriate buffer. No direct or indirect effects are considered likely.</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 5				
<p><u>Mixed Plantation woodland</u></p> <p>A mixed plantation woodland exists on the south-western corner of Area 5. Species consisted of dominant Scot's pine, frequent ash and common oak <i>Quercus robur</i>, occasional hawthorn and willow and rare rowan. The ground flora supported neutral grassland consisting of abundant perennial rye and rush spp., frequent cock's foot, bramble and broadleaved dock, occasional common nettle, dandelion, creeping buttercup, common sorrel and lesser celandine.</p>	<p><u>Primary code</u> Other woodland - mixed (w1h)</p> <p><u>Secondary code</u> Plantation (29)</p>		<p>n/a</p>	<p>A 15m (minimum) buffer shall be retained around woodland boundary features. No direct or indirect effects likely. No negative effects shall occur as a result of proposed works.</p>

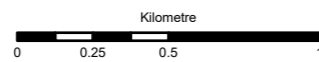
Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 5				
<p><u>Line of trees</u> Towards the northern end of the western boundary is a line of trees. The trees within the line consisted of willow spp., hawthorn and blackthorn.</p>	<p><u>Primary Code</u> Other broadleaved woodland (w1g)</p> <p><u>Secondary code</u> Line of trees (33)</p>		n/a	<p>The linear field boundary features shall be retained and incorporated into the design scheme. No negative effects are anticipated as a result of the proposed development.</p>
<p><u>Scrub</u> Area of mixed scrub consists of dominant hawthorn and bramble, abundant rush spp. and dock spp., frequent perennial rye, cocks' foot, wild angelica, cow parsley and rosebay willowherb <i>Chamerion angustifolium</i>.</p>	<p><u>Primary code</u> Mixed Scrub</p> <p><u>Secondary codes</u> Waterlogged (504)</p>		n/a	<p>Scrub areas may be lost to facilitate solar arrays. This habitat is common and widespread in a national and local context. Any losses of scrub shall be accounted for within the BNG Metric.</p>
<p><u>Ditches</u>¹⁷ The ditches on site are considered to be an associated feature of the hedgerows. All ditches whether wet or dry</p>	<p><u>Primary code</u> Native hedges (h2a)</p>	No photo	n/a	<p>All linear features shall be retained and incorporated within the design scheme for the proposed</p>

Habitat Description	UK Hab Classification	Photograph	Local BAP/s.41	Potential Constraints
AREA 5				
are mapped on the waterbody location plan LSF-SR07-0005-Figure7.5 and described in Appendix 3	Secondary codes ditch (50)			<p>development. No direct impacts are considered likely.</p> <p>Indirect effects may occur through pollution/water</p>

DRAWINGS



Legend
 draft Order Limits



Coordinate System: British National Grid

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P01	22/05/2024	SRW	TP	BD	DB
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Rev	Date	By	Chkd	Appd	Authd

Client



Project Name

Lostrigg Solar

Drawing Title

Figure 7.1 Site Location Plan

Scale at A3

1:25,000

Role

Scoping Report

Suitability

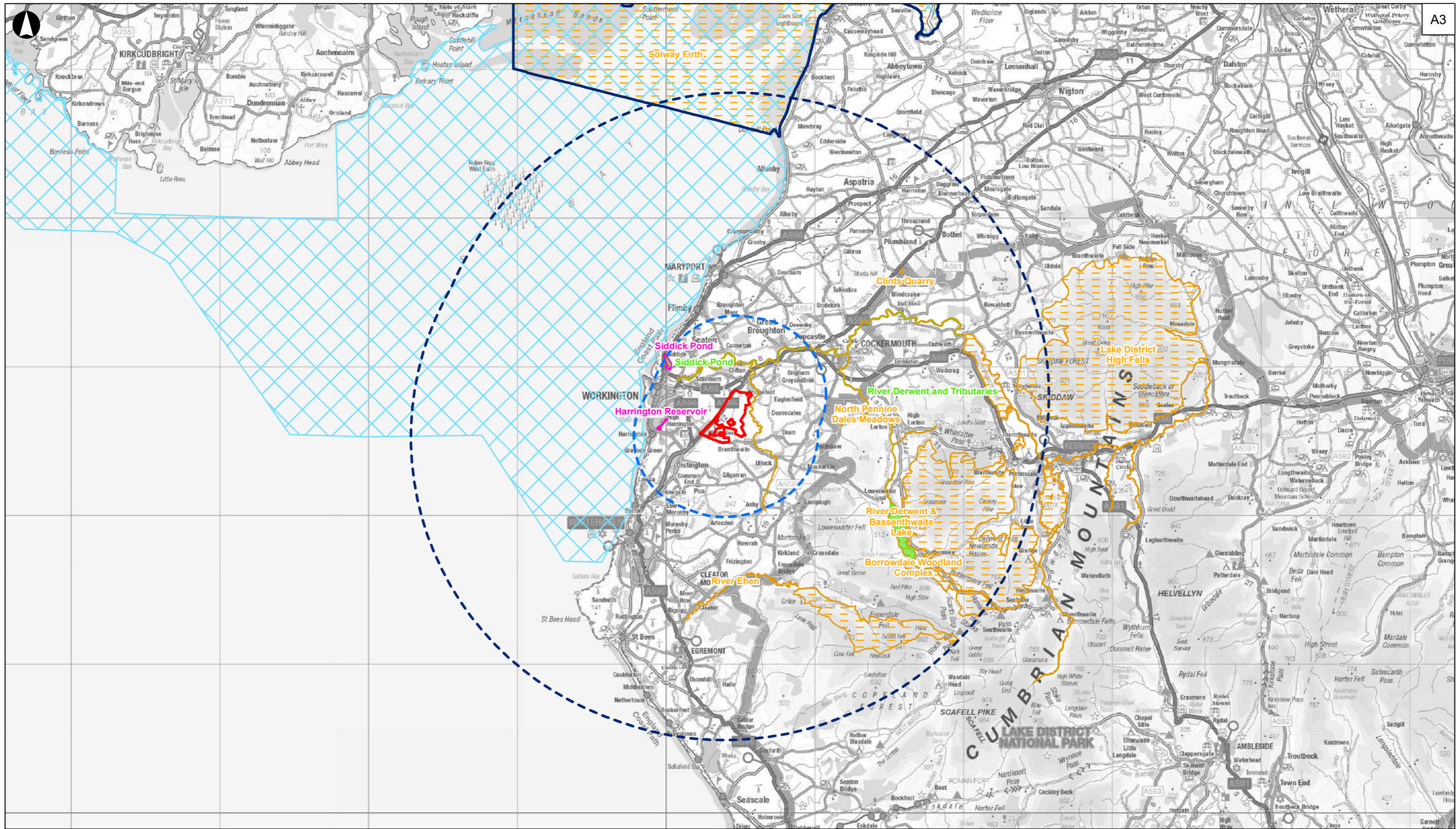
Issue

Project Number
300884-00

Rev
P01

Drawing Number

LSF-SR07-00001



- Legend**
- draft Order Limits
 - 5 km Study Area
 - 20 km Study Area

- Upper Solway Flats & Marshes Ramsar
- Solway Firth Protection Area

- Special Areas of Conservation
- Sites of Special Scientific Interest
- Local Nature Reserves



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P01	22/05/2024	SRW	TP	BD	DB

Client

Project Name
Lostrigg Solar

Drawing Title
Figure 7.2 Statutory Sites

Scale at A3
1:250,000

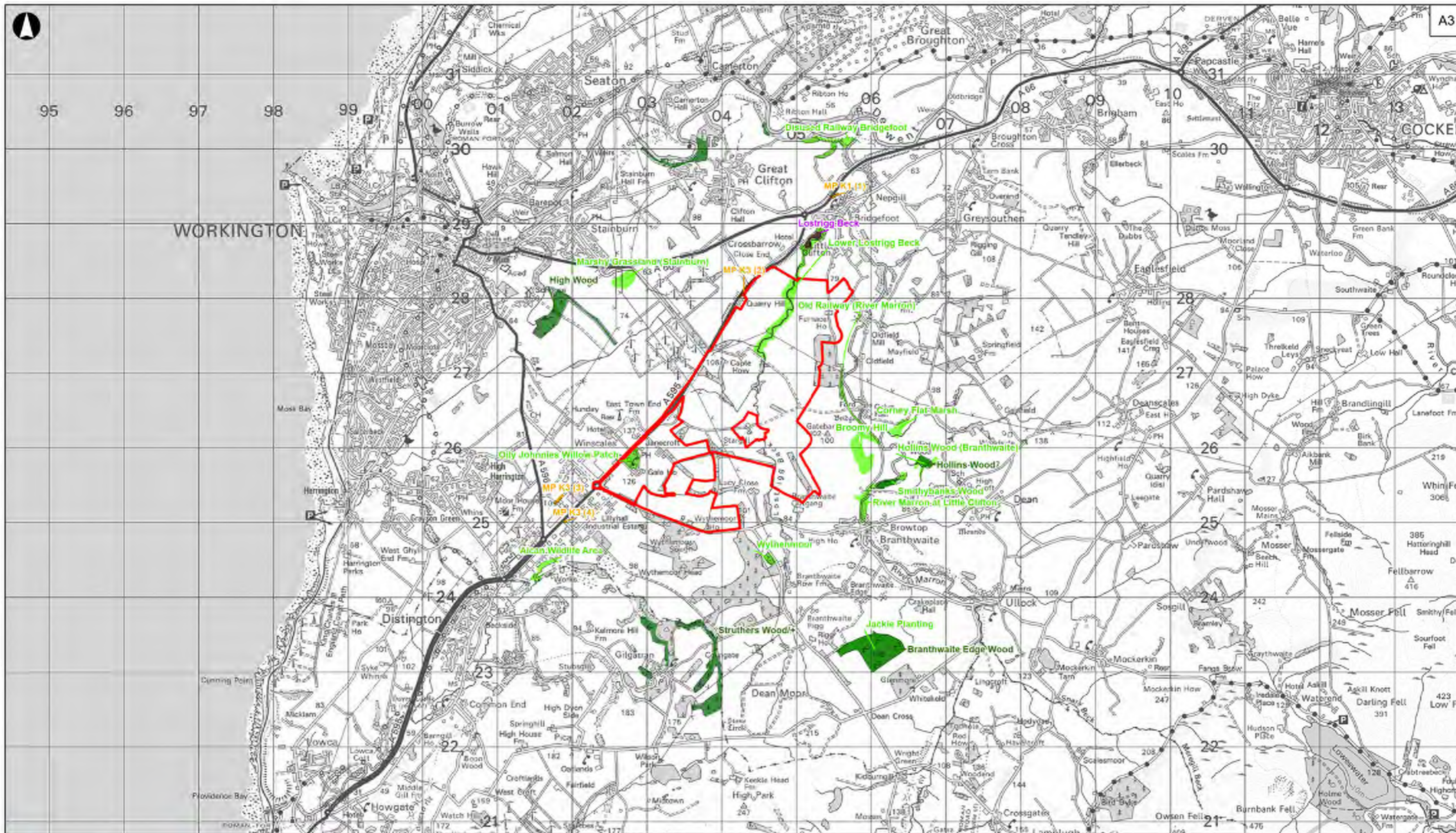
Role
Scoping Report

Suitability
Issue

Project Number
300884-00

Drawing Number
LSF-SR07-00002

Rev
P01



Legend

- draft Order Limits
- Special Roadside Verges
- County Wildlife Sites
- Site of Invertebrate Significance
- Ancient Woodland

Kilometres
0 0.5 1 2

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PO1	23/05/2024	SRW	TP	BD	DR
Rev	Date	By	Chd	Appd	Autd

Client

RWE

Project Name
Lostrigg Solar

Drawing Title
Figure 7.3 Non Statutory Sites

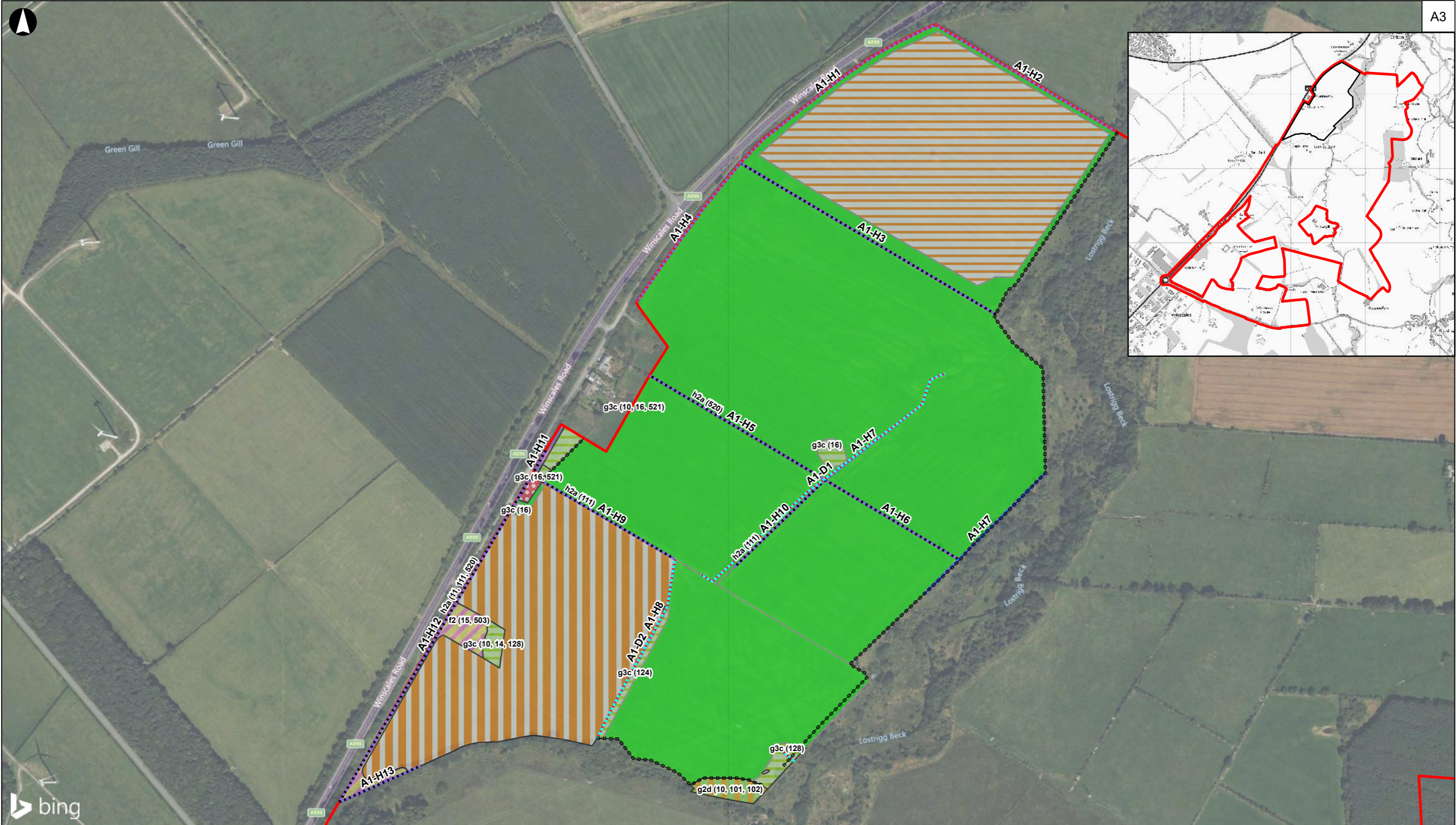
Scale of A3
1:50,000

File
Scoping Report

Suitability
Issue

Project Number 300884-00	Rev P01
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Drawing Number
LSF-SR07-00003



Legend

draft Order Limits	h3d - bramble scrub	h2b - other hedgerow
c1b - temporary grass and clover leys	r1a6 - other eutrophic standing waters	r1g - other standing water
c1c - cereal crops	u1c - artificial unvegetated unsealed surface	u1e - built linear feature
f2 - fen, marsh and swamp	g2d	Fence
g3c - other neutral grassland	h2a - hedgerow (priority habitat) (intact)	
g4 - modified grassland	h2a - hedgerow (priority habitat)	

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Scale: 0 50 100 200 Metres

Client

RWE

Project Name

Lostrigg Solar

Drawing Title

Figure 7.4.1 Provisional Habitat Plan - Area 1

Scale at A3

1:5,000

Role

Scoping Report

Suitability

Issue

Project Number

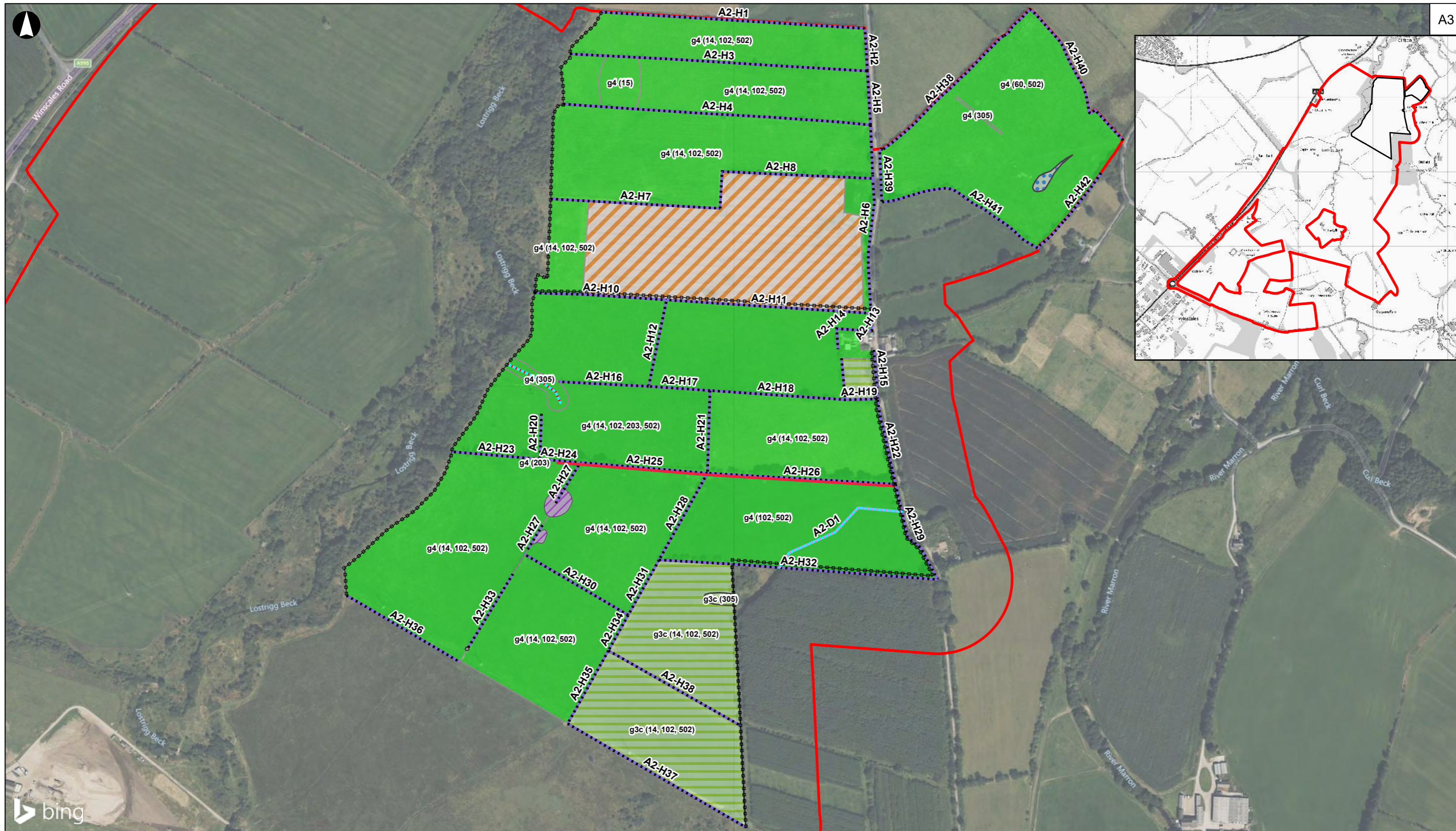
300884-00

Drawing Number

LSF-SR07-00004-1

Rev

P01



Legend

draft Order Limits	h3e - gorse scrub	r2b - other rivers and streams
c1 - arable and horticulture	r1g - other standing water	u1e - built linear feature
g3c - other neutral grassland	h2a - hedgerow (priority habitat) (intact)	Fence
g4 - modified grassland	r1g - other standing water	

Scale: 0 50 100 200 Metres

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Client

Project Name
Lostrigg Solar

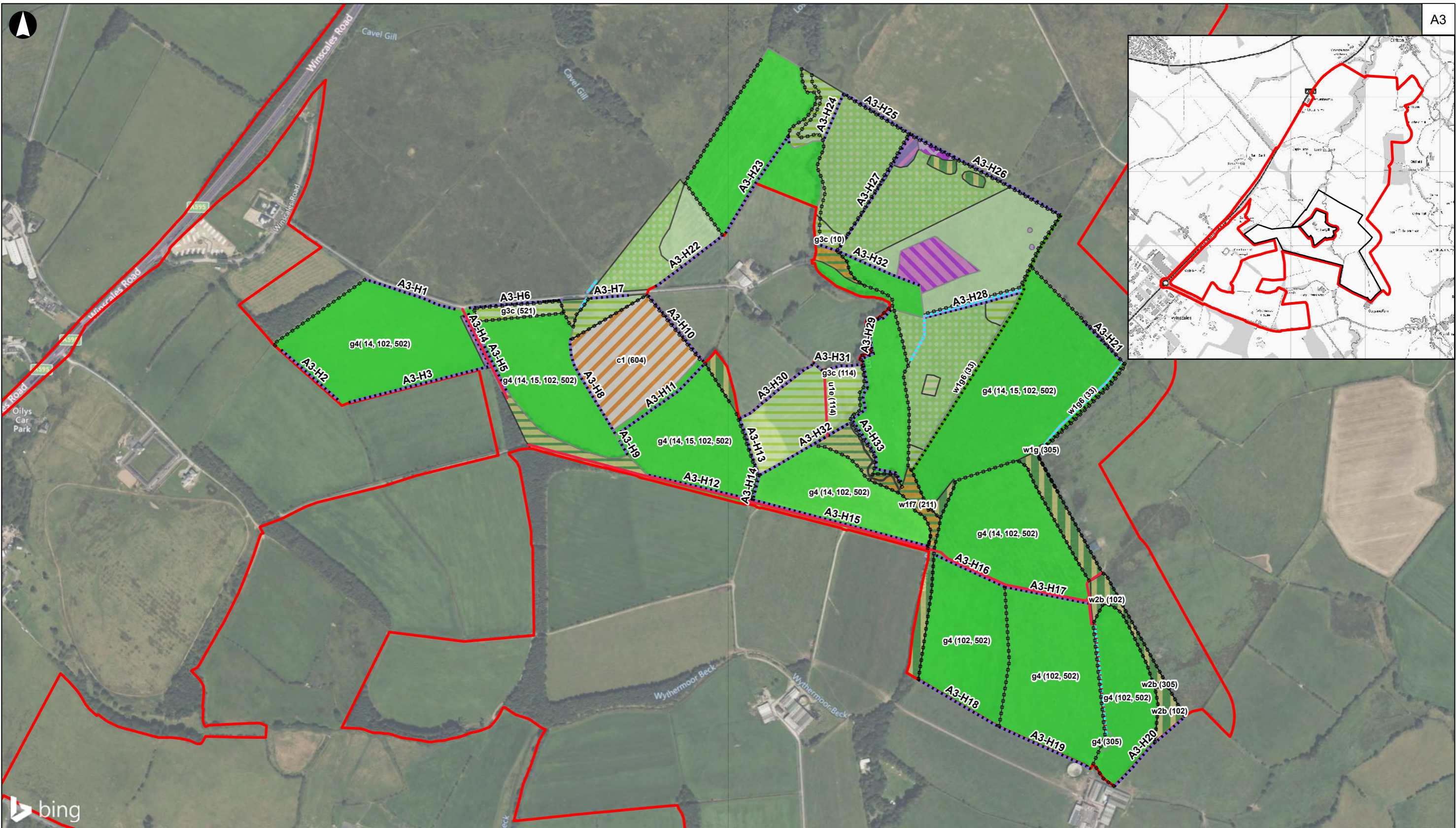
Drawing Title
Figure 7.4.2 Provisional Habitat Plan - Area 2

Scale at A3
1:5,000

Role
Scoping Report

Suitability
Issue

Project Number 300884-00	Rev P01
Drawing Number LSF-SR07-00004-2	



Legend

draft Order Limits	w2c - other coniferous woodland	h2a - hedgerow (priority habitat) (intact)
c1 - arable and horticulture	g4 - modified grassland	r1g - other standing water
f2b - purple moor grass and rush pastures	h3d - bramble scrub	r2b - other rivers and streams
g1d - other lowland acid grassland	h3h - mixed scrub	u1e - built linear feature
g3c - other neutral grassland	w1f7 - other Lowland mixed deciduous woodland	w1g6 - line of trees
g3c7 - Deschampsia neutral grassland	w1g - other woodland, broadleaved	Fence
g3c8 - Holcus-Juncus neutral grassland	w2b - other scots pine woodland	

Scale: 0 75 150 300 Metres

Coordinate System: British National Grid

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Client

Project Name
Lostrigg Solar

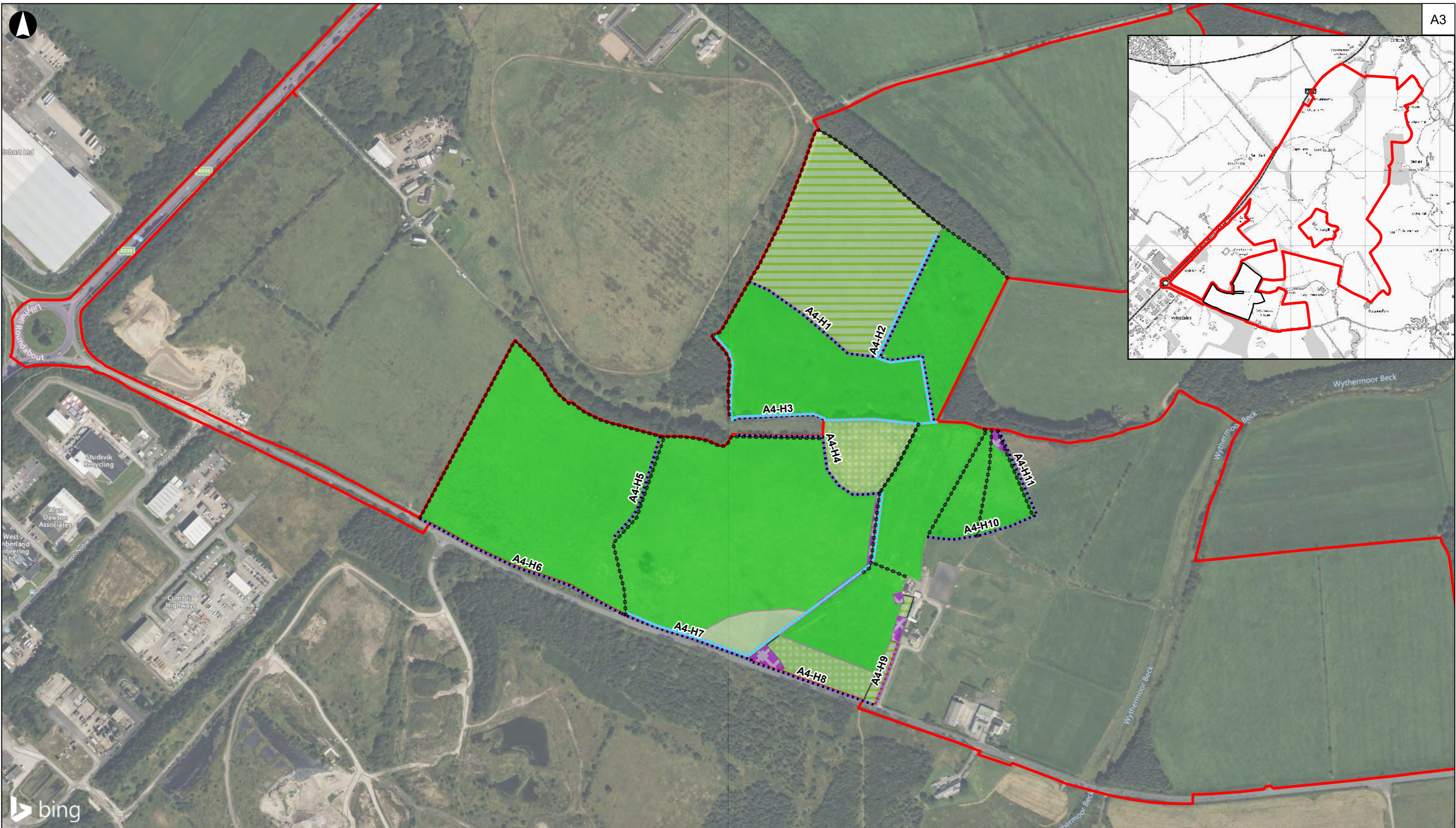
Drawing Title
Figure 7.4.3 Provisional Habitat Plan - Area 3

Scale at A3
1:7,500

Role
Scoping Report

Suitability
Issue

Project Number 300884-00	Rev P01
Drawing Number LSF-SR07-00004-3	



Legend

- draft Order Limits
- g4 - modified grassland
- g3c - other neutral grassland
- g3c7 - Deschampsia neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- h2a - hedgerow (priority habitat) (intact)
- h2b - other hedgerow
- h3h - mixed scrub
- r2b - other rivers and streams
- Fence

Scale: 0 50 100 200 Metres

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Client

Project Name
Lostrigg Solar

Drawing Title
Figure 7.4.4 Provisional Habitat Plan - Area 4

Scale at A3
1:5,000

Role
Scoping Report

Suitability
Issue

Project Number 300884-00	Rev P01
Drawing Number LSF-SR07-00004-4	



Legend

- draft Order Limits
- g4 - modified grassland
- w1h - other woodland, mixed
- h2a - hedgerow (priority habitat) (intact)
- Fence

Metres

Coordinate System: British National Grid

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Client

RWE

Project Name
Lostrigg Solar

Drawing Title
Figure 7.4.5 Provisional Habitat Plan - Area 5

Scale at A3
1:5,000

Role
Scoping Report

Suitability
Issue

Project Number 300884-00	Rev P01
Drawing Number LSF-SR07-00004-5	



Legend

- draft Order Limits
- River
- Spring
- Waterbody
- Wet Ditch
- Dry Ditch

Metres

Coordinate System: British National Grid

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Rev	Date	By	Chkd	Appd	Authd

Client

RWE

Project Name
Lostrigg Solar

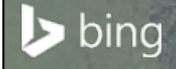
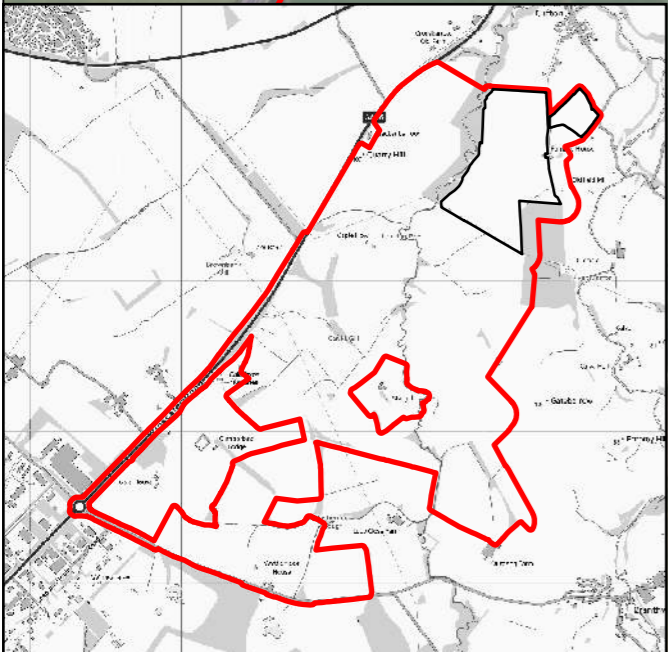
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Figure 7.5.1 Waterbody Location Plan - Area 1

Scale at A3
1:5,000

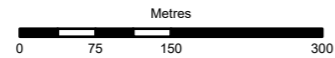
Role
Scoping Report

Suitability
Issue

Project Number 300884-00	Rev P01
Drawing Number LSF-SR07-00005-1	



- Legend**
- draft Order Limits
 - Waterbody
 - Spring
 - River
 - Wet Ditch
 - Dry Ditch
 - Spring



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Rev	Date	By	Chkd	Appd	Authd

Client



Project Name

Lostrigg Solar

Drawing Title

Figure 7.5.2 Waterbody Location Plan - Area 2

Scale at A3

1:7,500

Role

Scoping Report

Suitability
Issue

Project Number
300884-00

Rev
P01

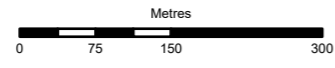
Drawing Number

LSF-SR07-00005-2



Legend

- draft Order Limits
- River
- Wet Ditch
- Dry Ditch
- Waterbody
- Spring



Coordinate System: British National Grid

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Rev	Date	By	Chkd	Appd	Authd



Project Name
Lostrigg Solar

Drawing Title
Figure 7.5.3 Waterbody Location Plan - Area 3

Scale at A3
1:7,500

Role
Scoping Report

Suitability
Issue

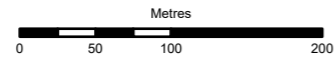
Project Number 300884-00	Rev P01
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Drawing Number
LSF-SR07-00005-3



Legend

- draft Order Limits
- River
- Spring
- Waterbody
- Wet Ditch
- Dry Ditch



Coordinate System: British National Grid

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Rev	Date	By	Chkd	Appd	Authd

Client



Project Name

Lostrigg Solar

Drawing Title

Figure 7.5.4 Waterbody Location Plan - Area 4

Scale at A3

1:5,000

Role

Scoping Report

Suitability

Issue

Project Number
300884-00

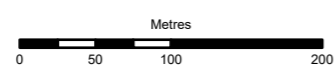
Rev
P01

Drawing Number

LSF-SR07-00005-4



- Legend**
- draft Order Limits
 - River
 - Spring
 - Waterbody
 - Wet Ditch
 - Spring
 - Dry Ditch



Coordinate System: British National Grid

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P01	06/06/2024	GER	LP	BD	DB
Rev	Date	By	Chkd	Appd	Authd



Project Name
Lostrigg Solar

Drawing Title
Figure 7.5.5 Waterbody Location Plan - Area 5

Scale at A3
1:5,000

Role
Scoping Report

Suitability
Issue

Project Number 300884-00	Rev P01
------------------------------------	-------------------

Drawing Number
LSF-SR07-00005-5

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Aspinall Way
Middlebrook
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Tel: +44 (0)1204 227 227

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Lostrigg Solar EIA Scoping Report - Appendices

Appendix 11.1

June 2024



RWE RENEWABLES UK SOLAR AND STORAGE LIMITED

LOSTRIGG SOLAR FARM

GEO-ENVIRONMENTAL DESK STUDY AND PRELIMINARY RISK ASSESSMENT

MAY 2024

DATE ISSUED: MAY 2024
JOB NUMBER: CA12978
REPORT NUMBER: 0005
STATUS: FINAL
VERSION: V1.0

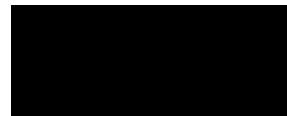
RWE RENEWABLES UK SOLAR AND STORAGE LIMITED

LOSTRIGG SOLAR FARM

GEO-ENVIRONMENTAL DESK STUDY AND PRELIMINARY RISK ASSESSMENT

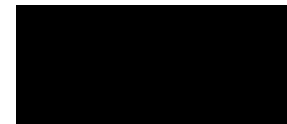
PREPARED BY:

S Jones Geologist

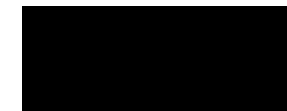


REVIEWED BY:

A Ovens Principal Engineering Geologist

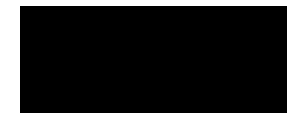


K Walker Principal Geologist



APPROVED BY:

R Reuter Technical Director



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CONTENTS

EXECUTIVE SUMMARY	I
1 INTRODUCTION	1
2 SITE HISTORY AND CURRENT LAND USE.....	3
3 GEOLOGICAL AND HYDROGEOLOGICAL SETTING	7
4 SUMMARY OF COAL AUTHORITY REPORT.....	12
5 ENVIRONMENTAL SETTING AND CONSULTATIONS	16
6 PRELIMINARY RISK ASSESSMENT	18
7 GEOTECHNICAL ASSESSMENT	24
8 CONCLUSIONS AND RECOMMENDATIONS	28

FIGURES

Figure 1 Aerial Image Showing the Approximate draft Order Limits Boundary

APPENDICES

Appendix 1	Standard Terms and Conditions and Limitations to Report
Appendix 2	RWE Site Location Plan
Appendix 3	Guidance on Contamination and Land Quality Statements
Appendix 4	Groundsure Enviro+Geo Insight Report
Appendix 5	Site Visit Record
Appendix 6	Coal Authority Report

DRAWINGS

Drawing No	Title	Scale
LSF-SR11-00001	Figure 11.1 Constraints Plan	1:25,000

EXECUTIVE SUMMARY

This report is prepared for RWE Renewables UK Solar and Storage Limited to provide preliminary information pertinent to the ground conditions of the draft Order Limits. The draft Order Limits are located between Winscales and Little Clifton and comprises c.478 hectares of primarily agricultural land with various agricultural and farm buildings situated throughout.

The historical map review indicated that from earliest mapping the draft Order Limits comprises undeveloped fields and moorland with sporadic buildings. Evidence of historical ground workings are evident through records of quarries and collieries both within the boundary and outside the draft Order Limits. A rifle range was recorded between 1925 and 1994.

The draft Order Limits are located within a Coal Mining Reporting Area and a Development High Risk Area, being predominately underlain by Pennine Lower Coal Measures and Pennine Middle Coal Measures that have numerous worked seams within them through both underground and opencast mining. The draft Order Limits contain approximately 196 mine shafts and 10 adits.

Based on the available information summarised in this report the draft Order Limits are considered to present a Very Low to Moderate/Low risk from historical contaminative uses. The most significant sources of contamination identified (Moderate/Low risk) are associated with historical underground mining legacy and exposure to potential contaminants in Made Ground.

The draft Order Limits are considered to present a Very Low to Low geotechnical risk, however the presence of Made Ground within infilled pits and opencast (Moderate) and Historical mine entries (High) have higher risks associated with them.

This report has been prepared for geo-environmental and geotechnical purposes. Other constraints (e.g. ecological and archaeological) are beyond the scope of this report.

Numerous recommendations have been made, including best working practices and understanding locations of mine shafts that would benefit design and location of trackways during installation.

The development should consider sustainable means of construction throughout the project, balancing the environmental, social and economic benefits.

1 INTRODUCTION

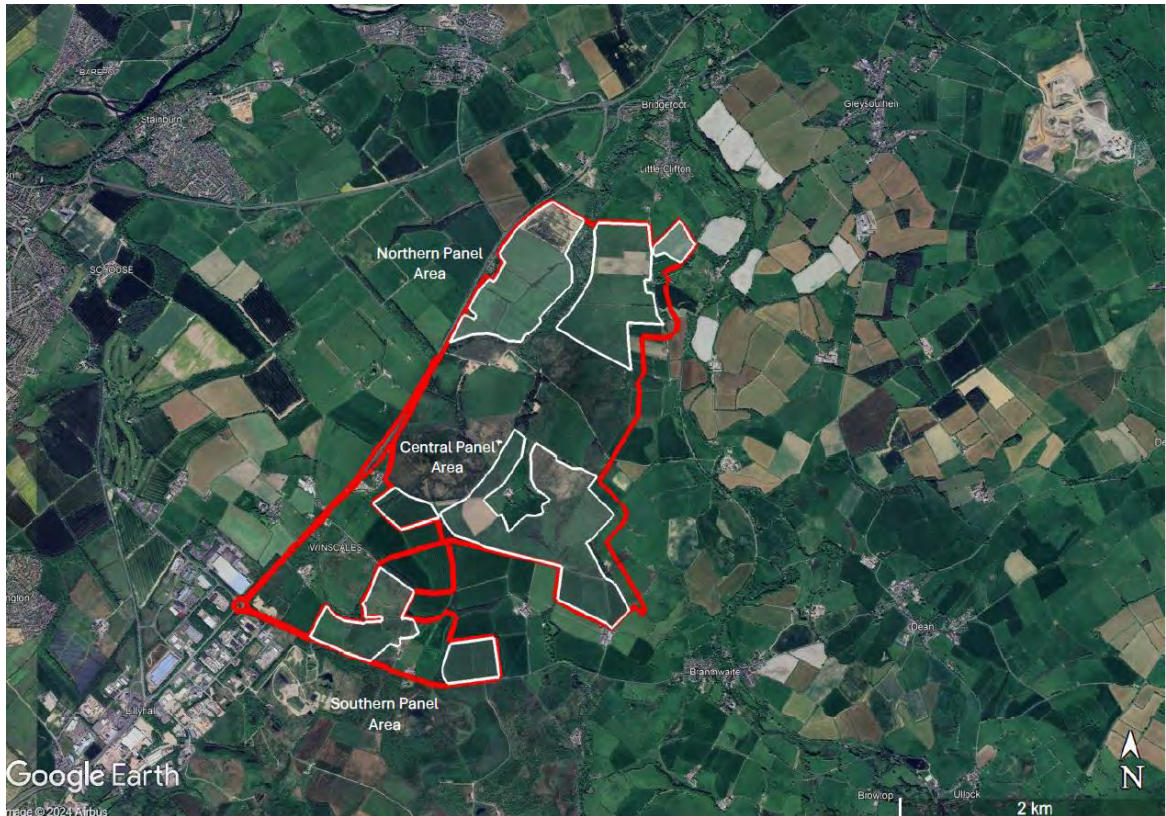
Instructions

- 1.1 This report is prepared in accordance with written instructions from David Brown (Arup) on behalf of RWE Renewables UK Solar and Storage Limited dated 26 April 2024, following WA proposal LD/CA12978/001 dated 11 December 2023.
- 1.2 This report is provided for the stated purpose and for the sole use of the client. It is confidential to the client and their professional advisers and cannot be shown to any other party without prior written consent. Wardell Armstrong LLP accepts no responsibility whatsoever to any person(s) other than the client.
- 1.3 This report must be read in conjunction with the terms and conditions outlined in Appendix 1.

Location

- 1.4 The Site is the proposed Lostrigg Solar Farm, located 5km east of Workington between Winscales and Little Clifton and is located as shown on Drawing LSF-SR07-00001 (1:25,000 scale), included at Appendix 2. The draft Order Limits comprise approximately 478 hectares of predominantly agricultural land (outlined by the blue Planning Boundary line), centred at easting/northing: 303848, 526165 and is wholly located within the administrative district of Cumberland Council.
- 1.5 The draft Order Limits are currently in use for agricultural purposes with sporadic agricultural buildings and residential dwellings throughout. The draft Order Limits are bounded by agricultural land to the north and east with the A595 running parallel to the western boundary and by an unnamed road in the south, with agricultural land beyond.
- 1.6 The draft Order Limits has varying topography which is shown to generally slope down towards the centre of the Site from both the western and eastern boundaries. This is associated with the Lostrigg Beck. Other streams and tributaries to Lostrigg Beck are present which affect the local topography. All panel areas contain topographic variation in relation to historical mining land use. An aerial image is shown in Figure 1, which also includes proposed panel areas for reference.

Figure 1: Aerial Image Showing the draft Order Limits and indicative panel areas, subject to design iteration



Reproduced from Google Imagery (2024)

Scope and Objectives

1.7 The purpose of this report is to identify and examine in broad terms readily available information relating to the:

- past and current uses of the draft Order Limits and surrounding area;
- environmental setting including geology, mining, hydrogeology and hydrology;
- potential contamination sources, pathways and receptors as part of a preliminary conceptual model;
- potential stability and contamination constraints and liabilities that may arise in connection with the present use or proposed use of the draft Order Limits; and
- requirement or otherwise for future studies including potential intrusive site investigation prior to redevelopment.

- 1.8 The report has been produced in general accordance with the Environment Agency's Land Contamination Risk Management (LCRM) dated October 2020, updated July 2023. Further background to government guidance on contamination and the purpose and use of Land Quality Statements in assessing the risk of contamination at a Site is described at Appendix 3.
- 1.9 The report does not constitute or contain a valuation nor is it a full rigorous environmental audit. In this instance the report is prepared to support a planning application for the construction/installation of a solar farm.

Proposed Site Use

- 1.10 It is proposed that the draft Order Limits are developed for a renewable energy scheme comprising panel areas with solar photovoltaic (PV) panels, on-site substation and battery storage systems along with underground cable connections between panel areas and to the National Grid. It should be noted that the location of substation, battery storage and cable routes are not determined at the time of writing, however indicative panel areas are understood.

2 HISTORY AND CURRENT LAND USE

Data Sources

- 2.1 The history of the draft Order Limits and the surrounding land has been investigated by consultation with a range of archive sources, primarily historical mapping, topographical and environmental data. The topographical and environmental data is based primarily on a Groundsure Enviro+Geo Insight report prepared by Groundsure dated 23 April 2024 and referenced GSIP-2024-14878-18377_1A and GSIP-2024-14878-18377_1B. These are included as Appendix 4. A summary of the key historical land uses are outlined on the Constraints drawing LSF-SR11-00001 (Figure 11.1 Constraints Plan).
- 2.2 No information has been received from statutory bodies at the time of reporting. Should this be obtained, relevant data can be used, if necessary, to revise the conclusions presented.

Order Limits History

2.3 Historical mapping provided in the Groundsure report have been used to identify previous land uses, including any significant potentially contaminative uses (included in bold text). Where other features that may have an effect on development of the draft Order Limits have been identified, they are described. Some descriptions are provided primarily for context.

2.4 Table 2.1 summarises the history of the draft Order Limits and its immediate vicinity from about 1862 to the present day.

TABLE 2.1: Summary of Land Use		
Date	Land Use of draft Order Limits	Adjacent Land Use
1862 – 1866	<p>The earliest mapping records the draft Order Limits to primarily comprise undeveloped fields and moorland (Clifton Moor) with sporadic buildings (Furnace House in north-east, Oldfield in north-west, Stargill in centre, and Wythemoor House in south).</p> <p>An old quarry is recorded to the east of Furnace House and is very small in size. Further quarry/pits are recorded along the north-western boundary.</p> <p>Swinsly Gill watercourse is recorded to flow from the western boundary to the centre of the draft Order Limits where it converges with Lostrigg Beck, which flows north dissecting the Site.</p>	<p>The draft Order Limits are predominately recorded to be surrounded by undeveloped fields, with large areas of these comprising named Moors. The settlements of Little Clifton and Branthwaite are recorded c.300m north and c.600m south-east, respectively.</p> <p>The draft Order Limits are bounded on the western side by Winscales Road, with Little Clifton Detachment No1 (colliery) labelled on the opposite side of the road to the north-west of Site. The southern boundary comprises an unnamed road.</p> <p>The draft Order Limits are situated within an area that has numerous collieries recorded in all directions.</p>
1898 – 1900	<p>The draft Order Limits are now recorded as undeveloped fields with no reference to moorland.</p> <p>An Old Shaft (coal) and Old Air Shaft are recorded in the southern Panel Area.</p>	<p>A railway line is recorded c.80m east of the Site.</p> <p>Lusty Close (colliery) is located immediately south-east of the draft Order Limits, with Braithwaite Outgang (colliery) also recorded c.70m south-east. Wythemoor Pit (Disused) is recorded c.30m south.</p>
1923 – 1927	<p>No significant change recorded, with the exception of a Rifle Range with associated targets at 100 to 600 yards recorded in centre of the draft Order Limits.</p>	<p>No significant change recorded. Braithwaite colliery located c.520m south-east of the draft Order Limits is recorded as disused.</p>
1938 – 1947	<p>No significant change recorded.</p>	<p>No significant change recorded.</p>

TABLE 2.1: Summary of Land Use		
Date	Land Use of draft Order Limits	Adjacent Land Use
1957 – 1961	Overall area records no significant change. Rifle Range in centre marked as disused. Additional Rifle Range area marked in the west of the disused range. Electricity pylon route marked crossing west to east in north of area.	Little Clifton to the north is recorded to have undergone expansion of residential dwellings. The railway to the east is recorded as disused. Braithwaite and Wythemoor Collieries are no longer recorded. Lusty Close (former colliery) is now labelled Lucy Close Farm.
1970 – 1981	No significant change recorded. Two buildings now recorded in area previously used as rifle range. Disused rifle range no longer recorded. A woodland is now recorded in the south-east.	Railway to the east of the draft Order Limits is labelled as dismantled. Commercial development and factory now recorded adjacent to the south west and west boundaries respectively.
1985 – 1994	Quarry and Pits are no longer recorded in the north-west of the draft Order Limits. No significant change across remainder of the draft Order Limits.	Further development is recorded within Little Clifton. High Southfield (Colliery) , south of Central Panel Area is no longer recorded. Opencast mine (coal) is recorded to the immediate south of the draft Order Limits, with a waste treatment centre further south. Further commercial development is recorded to the south-west of the draft Order Limits.
2003	Rifle range at centre of draft Order Limits no longer recorded.	No significant change recorded.
Present day	No significant change recorded.	No significant change recorded.

Current Land Use

2.5 The draft Order Limits was visited on 29 and 30 April 2024 by a representative of Wardell Armstrong. The following points are of note from the time of the walkover:

- The draft Order Limits primarily comprised agricultural fields with some grass covered and designated for grazing purposes, whilst others were for arable purposes.
- Overhead cable routes were observed to traverse the draft Order Limits in the north east and south.
- A total of 4No. potential mine entries (shafts) were observed in the south of the draft Order Limits at the time of the walkover. Some examples of which are shown on photographs 3 & 4 contained within Appendix 5. The potential shafts were generally identifiable by a small depression of between 3 and 5m diameter on the ground.

- Some of the potential shafts showed evidence of damage and it is possible that this may present a hazard to the general public accessing the Public Right of Way. Whilst outside the scope of this report it would be prudent to notify the landowner to the nature of the reported damage. It is recommended that further advice should be sought. It is possible that a number of additional mine entries (recorded & unrecorded) are present, which were unable to be identified at the time of the site walkover.

2.6 A selection of walkover photos are attached at Appendix 5.

2.7 It should be noted that due to the size of the draft Order Limits, and ongoing agricultural use of fields, whilst a walkover has taken place this was largely conducted from perimeters and not all areas have been inspected in detail. Some areas of the draft Order Limits, in particular the northern portion or east of Lostrigg Beck were also not available for inspection.

Asbestos

2.8 The Health and Safety at Work Act, the Control of Asbestos Regulations and the Construction (Design and Management) Regulations impose duties upon employers, site owners, their agents and contractors in respect of hazardous materials including asbestos. Other health and safety and welfare regulations place duties on employers to undertake appropriate risk assessments. This could include the commissioning of surveys, identification and management of hazardous materials including any proposals for remedial work.

2.9 A walkover survey has been completed. However, the walkover survey does not constitute an asbestos survey and not all areas of the draft Order Limits have been visited or made available for inspection.

2.10 Asbestos has not been identified during our walkover. However, asbestos may be present in buildings within the draft Order Limits and could be present in the Made Ground at the Site associated with past historical use. In the event that any asbestos is identified in the future or if it is considered that a risk from asbestos exists this should be assessed.

Ecology

- 2.11 There are a number of legal or planning constraints relating to wildlife habitats and protected species on or adjacent to a site. The habitats and species can also be linked via surface or groundwater and can be affected by activities on the site such as noise, dust or pollution.
- 2.12 Reference to the Groundsure report indicates no National Nature Reserves or Marine Nature Reserves within 1km of the Site. The River Marron, located 125m east of the Northern Panel Area eastern boundary, has been designated as a Site of Special Scientific Interest (SSSI).
- 2.13 Other non-statutory Sites (e.g. SINC's) which are protected by LPA policy rather than statute are omitted, as are Biodiversity Action Plan (BAP) habitats which are 'protected' by national planning policy (NPPF).

Japanese Knotweed, Himalayan Balsam and Giant Hogweed

- 2.14 Invasive plants such as Japanese knotweed, Himalayan balsam and giant hogweed have become aggressively dominant, creating serious problems in some areas. Giant hogweed poses a serious health hazard and Japanese knotweed can cause physical damage to pavements and structures. The Wildlife and Countryside Act 1981 states that it is an offence to "plant or otherwise cause to grow in the wild" any listed plant species.
- 2.15 Invasive plant species were not identified within the draft Order Limits during the walkover.
- 2.16 Although a site visit has been carried out, this was not specifically for ecological purposes, or by a suitably qualified ecologist. A separate Preliminary Ecological Appraisal has been produced by others.

3 GEOLOGICAL AND HYDROGEOLOGICAL SETTING

Geology

- 3.1 The assessment of the geology of the draft Order Limits is based on the published geological mapping sheet (Sheet No 28, Whitehaven, Solid and Drift Edition, 1:50,000

scale & Sheets NY02NW, NY02NE & NY02SW, 1:10,000 scale) supplemented by the geological memoir, topographical plans, Coal Authority (CA) report and site visit. Online data from the British Geological Survey (BGS) has been researched and relevant borehole records are summarised.

3.2 A summary of relevant geological information is provided below in Table 3.1.

TABLE 3.1: Summary of Relevant Geological Data	
Strata	Description
Made Ground	BGS mapping has recorded Made Ground to be present within the draft Order Limits. A significant area is recorded in the south that extends from the western portion of the Central Panel Area to the eastern portion of the Southern Panel Area. In addition, there are smaller areas of Made Ground recorded, with two of these in the Southern Panel Areas. The extent of recorded Made Ground is shown on the constraints plan LSF-SR11-00001.
Natural Superficial Deposits	Superficial deposits are recorded by the BGS to comprise Devensian Till (unsorted glacial deposits consisting of clay, sand, gravel and boulders) across the whole draft Order Limits, with the exception of the channel formed by Lostrigg Beck that has deposited Alluvium (clay, silt, sand and gravel), an area of Lacustrine Alluvium extending to the east of Lostrigg Beck between the Northern and Central Panel Areas, and within the south of the draft Order Limits, where opencast mining has removed the Till.
Solid Strata	The BGS mapping records the draft Order Limits to be underlain primarily by the Pennine Middle Coal Measures Formation with areas of Pennine Lower Coal Measures Formation in the south. The coal measures strata comprise interbeds of mudstone, siltstone and sandstone, along with more extensive sandstone beds in the Pennine Middle Coal Measures Formation. Available mapping indicates that a number of coal seams subcrop within the draft Order Limits boundary (Senhouse, Gale, Brassy, Mabel, Black metal, White metal, Ten quarters, Rattler, Main, Yard, Little main, Lick bank, Six quarters). The Coal Authority report outlines 8No. coal seams of workable thickness beneath the draft Order Limits, however there may be further seams worked and are unrecorded.

TABLE 3.1: Summary of Relevant Geological Data

Strata	Description
Boreholes	<p>Numerous BGS boreholes are present across the Site. Whilst not all of these have been reviewed, the following is of note:</p> <p>Boreholes in the Northern Panel Area (NY02NW180, NY02NE188, NY02NE195 and NY02NE190) generally revealed superficial deposits between 4.00 – 11.65m bgl overlying coal bearing strata with between three to seven coal seams recorded per borehole. Two old workings were recorded, at 27.43 – 30.00m within NY02NE188 and 26.35 – 30.00m within NY02NE190.</p> <p>Two boreholes in the Central Panel Area, NY02NE181 and NY02NE177, recorded superficial deposits between 2.88 – 5.00m. Two and ten coal seams were recorded in NY02NE181 and NY02NE177 respectively.</p> <p>A borehole (NY02NW38) in the Southern Panel Area revealed an unrecorded depth of superficial deposits, underlain by three coal seams to the base of the borehole to 9.14m.</p>
Geological Structure	BGS mapping identifies the draft Order Limits to be present within an area of intense geological faulting, primarily trending north-west to south-east.
Natural Cavities.	There are no natural cavities recorded within the draft Order Limits.
Ground Stability Risk	<p>British Geological Information Services records the following on-site hazard potentials:</p> <p>Shrink swell clays – Very Low hazard potential across the majority of the draft Order Limits with Low hazard potential in areas of Lacustrine Alluvium.</p> <p>Running sands – Very Low hazard potential across the majority of the draft Order Limits with Low hazard potential located along Lostrigg Beck.</p> <p>Compressible deposits – Negligible hazard potential across the majority of the draft Order Limits with a Moderate hazard potential in areas of Alluvium, Lacustrine Alluvium, and Made Ground.</p> <p>Collapsible deposits – Very Low hazard potential across the draft Order Limits reducing to negligible along Lostrigg Beck.</p> <p>Landslide: Very Low hazard potential across the majority of the draft Order Limits with sporadic areas of Low hazard potential.</p>

Hydrogeology

3.3 Hydrogeological information has been obtained from a review of:

- Groundsure Enviro+Insight report;
- Groundwater Protection Policy and Groundwater Vulnerability maps published by the Environment Agency; and
- Hydrogeological maps published by the British Geological Survey.

3.4 This information indicates that the Devensian Till superficial deposits that cover the majority of the draft Order Limits are classified as a Secondary Undifferentiated

Aquifer with the Alluvium along Lostrigg Beck classified as a Secondary A Aquifer. The Lacustrine Alluvium is classified as unproductive strata.

- 3.5 The underlying solid strata of the Pennine Middle Coal Measures Formation and Pennine Lower Coal Measures Formation are classified as a Secondary A Aquifer.
- 3.6 Secondary A aquifers are generally fractured or potentially fractured formations and do not have a high primary permeability. Although not producing large quantities of water for abstraction, they are important for local supplies and may supply base flow to rivers.
- 3.7 Secondary Undifferentiated aquifers typically have variable characteristics and it is not possible to assign them as either Secondary A or Secondary B aquifers.
- 3.8 There are no active groundwater abstraction licences within influencing distance of the draft Order Limits. The closest is located 334m west of the southern boundary and is operated by Shortridge Ltd which is licensed to abstract 60,000 m³ of groundwater per year for commercial purposes.
- 3.9 The draft Order Limits does not lie within a source protection zone.

Groundwater Vulnerability Classification

- 3.10 The vulnerability classification is based on the physical and chemical properties of the geology, hydrology and hydrogeology, which affect the migration of water and contaminants.
- 3.11 This classification is applied over a one-kilometre square grid. A worst-case vulnerability is therefore assumed until proved otherwise. The risks assigned correspond to:
- 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.

3.12 The on-site risk is summarised in Table 3.2.

TABLE 3.2: Summary of Relevant Geological Data		
Soil	Superficial Geology	Bedrock Geology
Leaching Class: Low Infiltration: <40% Dilution:>550mm/year	Vulnerability: Low Aquifer: Secondary Thickness:3-10m Patchiness: <90% Recharge Potential: Low	Vulnerability: Low Aquifer: Secondary Secondary Flow: Well-connected fractures

Hydrology

- 3.13 There are 3 No. graded surface water courses within 1km of the draft Order Limits. Lostrigg Beck enters the draft Order Limits from the south within the Central Panel Area, flowing north and dissecting the Northern Panel Area. The Environment Agency has given the Lostrigg Beck a General Quality Assessment (Chemistry) rating of Fail due to the concentration of mercury and polybrominated diphenyl ethers (PBDE). There are numerous ungraded surface watercourses present across the draft Order Limits. Lostrigg Beck feeds into the River Marron 1.1km north-east of the draft Order Limits.
- 3.14 The Environment Agency maintains national flood maps based on ground levels, predicted flood levels, information on flood defences and local knowledge. The flood maps show the predicted likelihood of flooding in an area in the context of current and also the proposed land use considered in development planning.
- 3.15 For existing land use purposes, the likelihood of flooding is classed as very low, low, medium or high based on the Environment Agency map entitled Risk of Flooding from Rivers and Sea.
- 3.16 The draft Order Limits are classified as having a negligible risk, with the exception of the area around the Lostrigg Beck, that is classified as a Medium to High-risk area. The chance of flooding each year is greater than 1 in 30 (3.3%) in this area around Lostrigg Beck.

- 3.17 For planning purposes, the likelihood of flooding is classed as low, medium or high based on flood zones identified in National Planning Policy Guidance (2014) attached to the National Planning Policy Framework (2012) and the EA map entitled Flood Map for Planning (Rivers and Sea). The Flood Map for Planning only applies if the Site is intended for redevelopment.
- 3.18 The overall draft Order Limits are classified as Flood Zone 1, with areas around the Lostrigg Beck that dissect the Northern Panel Area classified as Flood Zone 3. Flood Zone 3 has a high probability of flooding where the chance of flooding each year is 0.5% (1 in 200) or greater.
- 3.19 Areas associated with the additional ungraded surface watercourses present in the northern, centre and south of the Site are shown to present an increased risk of surface water flooding. This represents a 1 in 30-year flood event of greater than 1.0m.
- 3.20 The draft Order Limits represent a low risk of Groundwater flooding. The change of flooding each year is 1.0% (1 in 100) or greater.
- 3.21 It should be noted that this report has not been written for the assessment of water resources or flood risk, where a report pertinent to these disciplines are being produced by others under separate cover.
- 3.22 There are no surface water abstraction licences within 1km of the draft Order Limits.

4 SUMMARY OF COAL AUTHORITY REPORT

General

- 4.1 Research of the mining setting is based on examination of the published topographical and geological information as described in Sections 2 and 3 of this report along with other mining archive information included within the Groundsure report obtained. A Consultants Coal Mining Report for the draft Order Limits (Ref: 51003420758001) has been obtained from the Coal Authority, dated 26 April 2024, and is attached at Appendix 6.

Surface Workings

- 4.2 Research of topographical, geological and other archive mining records has indicated evidence of surface ground workings within the Central and Southern areas of the draft Order Limits with workings recorded onsite from c.1864 until c.1992.
- 4.3 The Groundsure Report records that surface mining of coal through opencast methods has occurred within draft Order Limits. These were undertaken under the names 'Wythemoor House OCCS' and 'Outgang OCCS'.
- 4.4 It is possible that parts of the Central and Southern Panels Areas are within an area of former open casting, although it should be noted that the former licensed area also includes areas not previously subjected to excavation, such as access roads and buildings etc. The former opencast licenced areas are illustrated for reference on the plan accompanying the CA mining report at Appendix 6, and these areas may present significant thicknesses of opencast backfill.

Shallow Underground Workings

- 4.5 Shallow underground mining is generally defined as that mining undertaken at depths of less than about 30m to 50m below rockhead. Collapse of strata above shallow underground workings can result in a total loss of support at the surface. As a result, severe subsidence can be experienced within a localised area or region.
- 4.6 By reference to the CA mining report, coal mine workings are recorded within four seams of coal beneath the draft Order Limits. The Coal Authority report has identified 9 No. references for mine working of these seams between 1900 and 1952.
- 4.7 Relevant information about these seams are summarised in Table 4.1 below, however full reference should be made to the CA mining report at Appendix 6.

TABLE 4.1: Shallow Mine workings			
Coal seam	Depth to top of seam (m)	Extraction Thickness (cm)	Year Last Mined
White Metal Band	0 – 3	89	1937
Main	0	167	1900
Lickbank	27	66	1952
Two Foot	30 – 47	60 – 62	1922 – 1952

4.8 By reference to the CA mining report, they do not report the potential for unrecorded shallow mine workings beneath the draft Order Limits, however it is noted that the published geological mapping indicates the presence of a number of subcropping coal seams within the draft Order Limits. It is possible that a number of these may have been worked in the past, but records are not currently available or that a number of these seams may have previously been removed by opencast extraction methods.

Deep Coal Mining

4.9 Deep mining is generally defined as that mining undertaken at depths greater than about 30m to 50m below rockhead. The Coal Authority report indicates evidence of deep underground mining within 5 No. seams between 1828 to 1959. The relevant information about the seams is summarised in Table 4.2 below, but full reference should be made to the CA mining report attached at Appendix 6.

TABLE 4.2: Deep Mine workings			
Coal seam	Depth (m)	Extraction Thickness (cm)	Years Last Mined
Two Foot	63 – 218	60 – 80	1828 – 1958
Main	70 – 156	200 – 205	1800 – 1913
Lickbank	71 – 148	56 - 73	1940 – 1959
Upper Ten Quarters	94 – 124	100 – 137	1914 – 1918
Cleator Moor Six Foot	104	120	1921
Unnamed 8	114 - 123	117	1919 - 1921
Top Bannock	172	38	1922

Mine Entries

4.10 Surface instability can be associated with recorded or unrecorded mine entries including shafts and adits. The Coal Authority Report indicates a total of 196No. recorded coal mine shafts and 10No. adits located within the draft Order Limits, the majority of which are recorded as untreated. The locations of the mine entries can be seen in the Coal Authority report, as well as on Drawing 11.1(Constraints Plan).

4.11 A total of 4No. coal mine shafts have been recorded as treated with a further 2No. shafts recorded as previously partially being removed as part of the former opencast operations. The treatment, as reported by the CA is summarised in Table 4.3 below.

TABLE 4.3: Summary of Mine Entry Treatment (as reported by the Coal Authority)		
Reference No.	Grid Reference	Action
304527-003	304085 527589	Filled to an unknown specification
304528-005	304963 528155	Filled to an unknown specification
304528-007	304598 528092	Filled to an unknown specification
304538-008	304287 528006	Filled to an unknown specification
302525-001	302789 525330	Partially removed by opencast
303525-006	303069 525077	Partially removed by opencast

4.12 In addition to the recorded mine entries at or near the draft Order Limits, the possibility of there being additional unrecorded mine entries cannot be entirely discounted. During development, a careful watch should be maintained for any feature which may represent an unrecorded mine entry, such as circular brickwork or anomalous areas of fill/timber. Should any such feature be identified, then works should cease and further advice should be sought.

Potential Surface Instability

4.13 The risk of surface instability arising from abandoned mine workings is generally regarded to be a function of the thickness of intact rock cover above the roof of a mine working, and the worked thickness/height of the mine working. Published industry guidance (CIRIA C758) refers to typical treatment depths of up to 60m but that, exceptionally, workings at depths up to 150m can result in damaging ground movements at the surface.

4.14 Crown hole formation (voiding caused by the upward migration of a mining cavity) tends to affect a relatively small area at the surface above a mine working and is rare where mine workings are present at depths in excess of 70m. Surface movement arising from the collapse of mine workings at greater depths is more likely to be associated with aerial collapse mechanisms, which are less common than crown hole type collapses, but may affect a large area at the surface.

4.15 Industry experience (as reported by Piggot & Eynon, 1977) suggests that collapse migration above old room and pillar workings is typically in the range of 3T to 5T (3 to 5 times the roadway/worked height) although this might, in exceptional circumstances, reach 10T or more. As such, 10T is often considered as an initial

baseline criterion for the assessment of risk from potential migrating voids associated with mine working collapse.

Coal Mine Gas

- 4.16 The CA mining report states that there have been no recorded instances of mine gas within, or within 500m distance of the site. However, whilst instances of mine gases have not been reported by the CA this does not mean that they are not present. Mine gases have the potential to migrate and accumulate within any confined spaces, including excavations, trenches, substations, inverter buildings etc, which may be proposed as part of the development.
- 4.17 Upon receipt of a finalised development layout plan the requirement for the completion of a mine gas risk assessment should be determined.

5 ENVIRONMENTAL SETTING AND CONSULTATIONS

Statutory Sources

- 5.1 Information from various statutory sources has been summarised from the Groundsure report prepared specifically for the draft Order Limits and included at Appendix 3. The results from a Site visit have also been considered as part of this assessment.

Contaminated Land Register Entries and Notices

- 5.2 No contaminated land entries or notices are identified within 1km of the draft Order Limits.

Waste Management

- 5.3 Information supplied has indicated the presence of 2 No. landfills and 1 No. Environment Agency historical recorded landfill located within 1km of the draft Order Limits. These are all located to the south-west of the Southern Panel Area.
- 5.4 There are 19 No. licensed waste sites, 2 No. of which are also located within 50m of the Southern Panel Area. The closest recorded facility of each type is shown in Table 5.1.

TABLE 5.1: Waste Management	
Location	Details
Licenced Waste Management Facility: Active/recent landfill Licence Holder: FCC Recycling Ltd Grid Ref: N/A Distance from Site: 3m south-west of Southern Panel Area.	Site Location: Lillyhall Stage 3 Landfill Site, Joseph Noble Road, Winscales, South Yorkshire, CA14 4JH Licence Number: EPR/GP3037SJ Authority: N/A Site Category: N/A Waste Type: waste landfilling. Licence Status: Unknown
License Waste Management Facility: Historical waste Site. Licence Holder: Alco Waste Management Ltd Grid Ref: N/A Distance from Site: 289m south-west of Southern Panel Area.	Site Location: Lillyhall Landfill Phase 3, Workington, Lillyhall, Cumbria. Licence Number: unknown Authority: Unknown Site Category: Unknown

5.5 In addition to the recorded/licensed landfilling activities in the vicinity of the draft Order Limits, the possibility, although remote of there being unrecorded landfilling activities within influencing distance of the draft Order Limits cannot be entirely discounted. If at some time in the future, the presence of such an unrecorded landfill is revealed then its potential influence on the draft Order Limits may need to be investigated and dealt with as necessary.

Radon

5.6 Radon can be a hazard within built developments and especially within enclosed or confined spaces. The UK Health Security Agency “UK Maps of Radon” (2022) provides a summary of the number of properties in a given area above the “Action Level” for radon. Although the radon atlas relates directly to measurements taken from homes or dwellings, it is also relevant to employers assessing risks for enclosed underground and ground floor workplaces.

5.7 The BRE document "Radon: guidance on protective measures for new buildings" (2023) provides guidance for reducing the concentration of radon in new buildings and a two-stage procedure using accompanying maps needed to determine the level of protection for a given Site.

5.8 These documents have been consulted and the draft Order Limits is shown to lie in an area where between 1% and 3% of properties are at risk from the ingress of radon, i.e. at low risk.

Environmental Issues

- 5.9 The Environment Agency data via the Groundsure report does not record any environmental issues within the draft Order Limits.

Unexploded Ordnance

- 5.10 Examination of the historical plans indicates a rifle range was present within the draft Order Limits from 1923 and recorded as disused from 1981. These are not situated within any of the Panel Areas. The area around the draft Order Limits has not had previous military use and does not appear to have been subject to aerial bombardment during the Second World War.
- 5.11 A review of the Zetica UXO risk mapping indicates that the draft Order Limits is within a low risk area. Should new evidence indicate that UXO may be an issue, it would be prudent to seek appropriate specialist advice.

6 PRELIMINARY RISK ASSESSMENT

- 6.1 Conclusions are drawn from the preceding information in terms of potential sources of contamination, possible receptors that may be affected by any sources of contamination and the pathways that exist between source and receptor. This risk assessment allows identification of the suitability of the draft Order Limits for its current and future use and evaluation of any potential environmental liability that may attach to the land within the draft Order Limits.
- 6.2 The risk assessment can be broadly divided as follows: land contamination, groundwater contamination, surface water contamination, ground gases and air pollution.
- 6.3 The main issues considered in the risk assessment are:
- The environmental risks identified, if any, that may have implications for the current or the proposed use of the draft Order Limits;
 - How likely it is that the environmental risks identified may affect the draft Order Limits. This is considered against a background of continuation of the current

use and potential for the draft Order Limits to be redeveloped in accordance with the proposed use;

- Other areas of primary concern from a ground engineering and environmental viewpoint that may have been revealed as a result of the research carried out; and
- These features are limited to the scope of work/research carried out and do not cover such factors as the wider planning constraints, archaeology, ecology etc.

6.4 The land use history has identified the following potentially significant sources of contamination both within the draft Order Limits and adjacent.

Potentially Significant Contamination Source within the draft Order Limits:

1. Infilled Pits, especially Opencast Mine.
2. Historical Underground Mining Legacy.
3. Rifle Range.

6.5 It should be noted that the rifle range is outside of the Panel Areas, where disturbance of the ground is not proposed, unless the cable routes are moved into this area.

Potentially Significant Contamination Source outside the draft Order Limits:

4. Landfilling to south (active/recent).
5. Factory.
6. Historical Underground and Opencast Mining

6.6 It is assumed that the recent/active landfilling activities to the immediate south of the draft Order Limits are being undertaken by FCC Recycling (UK) Ltd in accordance with regulations and best working practices. These would include the use of a liner for containment of contaminants. Due to the absence of complete pathways as part of the Proposed Development, this source has not been included within the summary plausible pathways table.

6.7 A factory is present to the west of the road A595. This is situated c.500m west of the Southern Panel Area, however the road is included within the Site boundary as a potential cable route and thus as construction workers may be at risk during construction phase of works only.

6.8 Historical underground and opencast mining has been recorded both within the draft Order Limits, and outside, in some cases transecting the boundary. Given the presence of these within the draft Order Limits is considered worst-case, the risk associated with historical underground and opencast mining outside the Limits has been omitted from Table 6.1.

6.9 As a result of the land use history presented in previous sections of this report, the draft Order Limits may have a number of sources of contamination. For land or groundwater to be designated as polluted a linkage must exist between:

- a source of contamination capable of causing significant harm;
- human or environmental receptors; and
- a pathway by which the contamination can reach the receptor.

Potential Receptors:

1. Construction Workers during installation.
2. Secondary A Aquifers (superficial and bedrock).
3. Lostrigg Beck.

6.10 The above list of potential receptors assumes that future operatives visiting the site for maintenance purposes along with members of the public utilising the Public Right of Way access will not disturb, or be exposed to, disturbed ground. It is unknown whether asbestos is present within the Made Ground/backfilled pits, and there is a potential for asbestos to become airborne through wind erosion over a long period of time, and therefore exposure of Made Ground should be monitored during the development life. Grass and vegetation within the solar array will limit the potential for wind erosion.

6.11 Construction workers during installation will have limited exposure to the ground, with the exception of the cable routes. We have assumed that construction workers will follow standard precautions of good hygiene, proper wearing of personal protective equipment (PPE) and that the works will be undertaken in accordance with a Construction Environmental Management Plan (CEMO). The implementation of these best practice measures will reduce the probability of exposure affecting construction works and have been considered in the qualitative risk assessment undertaken.

6.12 In line with EA guidance LCRM, plausible source, pathway and receptor linkages have been identified through the Conceptual Site Model (CSM) presented in Table 6.1 and used to carry out a Qualitative Risk Assessment. The risks have been assigned in line with the principles of CIRIA C552 and summarised in Appendix 2. A summary of the risk classification definitions are presented below:

- **Very Low risk** - There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe;
- **Low risk** - It is possible that harm could arise to a receptor from an identified hazard, but it is likely that this harm would, at worst, be mild;
- **Moderate risk** - It is possible that harm could arise to a receptor from an identified hazard but is unlikely to be severe. Investigation is required to clarify the risk and some remedial works may be required;
- **High risk** - It is likely that harm could arise to a receptor from an identified hazard and represent a substantial liability. Urgent investigation is required to clarify the risk and remedial works are likely to be required;
- **Very High risk** - It is highly likely, or evident, that severe harm could arise to a receptor from an identified hazard and represent a substantial liability. Urgent investigation and remediation are likely to be required.

6.13 Under each of the categories the environmental issues which have been identified have been assessed with regard to a wide range of topics including (where appropriate):

- the 'source-pathway-receptor' concept;
- the behaviour of potential contaminants within the environment;
- environmental processes;
- industrial operations and best practice;
- current environmental legislation;
- the views and practices of the environmental regulators;
- the likelihood of environmental notices, orders or other enforcement action;
- any requirements to remove waste, contaminated or hazardous materials;
- the health and safety of occupiers or neighbours;
- any redevelopment plans for the site; and
- financial and cost implications.

Qualitative Risk Assessment

6.14 From the combination of the foregoing information, a qualitative assessment of the potential geo-environmental risk is provided in Table 6.1, and locations are summarised on drawing LSF-SR11-00001. Where indicated, these risks may need to be considered for any future redevelopment of the land.

6.15 The effect of the present land use on the surrounding area is assessed with regard to the possible contaminant migration from the draft Order Limits to surrounding land and with regard to the general environmental setting and land quality of the surrounding area in order to put the on-site assessment in context.

Table 6.1 - Tabulated Conceptual Site Model – Plausible Pollutant Linkage Summary			
Potential sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Infilled Pits, especially Opencast mine within and outside the draft Order Limits: <ul style="list-style-type: none"> Asbestos PAHs, TPHs, Sulphates, Metals, and Ground gases. 	<ul style="list-style-type: none"> Direct ingestion of soil and soil derived dust. Dermal contact of soil and soil derived dust. Inhalation of dust with elevated concentration of determinands. 	Human Health <ul style="list-style-type: none"> Construction workers during development. 	Moderate/Low
	<ul style="list-style-type: none"> Anthropogenic (man-made) pathways. Vertical and lateral migration in permeable strata. Surface water runoff. 	Controlled Waters <ul style="list-style-type: none"> Superficial Secondary A Aquifer. Bedrock Secondary A Aquifer. Lostrigg Beck. 	Low
Historical Underground Mining Legacy: <ul style="list-style-type: none"> Mine gas 	<ul style="list-style-type: none"> Explosion Asphyxiation 	Human Health <ul style="list-style-type: none"> Construction workers during development. 	Moderate/Low
Rifle range: <ul style="list-style-type: none"> Metals, especially lead Trinitrotoluene (TNT), Hexogen (RDX), and Octogen (HMX). 	<ul style="list-style-type: none"> Direct ingestion of soil and soil derived dust. Dermal contact of soil and soil derived dust. Inhalation of dust with elevated concentration of determinands. 	Human Health <ul style="list-style-type: none"> Construction workers during development. 	Low
	<ul style="list-style-type: none"> Vertical and lateral migration in permeable strata. Surface water runoff. 	Controlled Waters <ul style="list-style-type: none"> Superficial Secondary A Aquifer Secondary A Aquifer. River Lostrigg Beck. 	Very Low
Factory adjacent to A595, south-west of draft Order Limits. <ul style="list-style-type: none"> PAHs, TPHs, Sulphates, and Metals. 	<ul style="list-style-type: none"> Direct ingestion of soil and soil derived dust. Dermal contact of soil and soil derived dust. Inhalation of dust with elevated concentration of determinands. Direct ingestion of groundwater. 	Human Health <ul style="list-style-type: none"> Construction workers during development. 	Moderate/Low

Climate Change

- 6.16 As part of this risk assessment, WA has considered the likely changes from the current known baseline that are to occur at the site during the project lifespan as a result of climate change. Climate models indicate that there will be an increase in extreme weather events, such as heatwaves and floods, as well as changes to the hydrological cycle, with the resulting impacts (drier summers, shorter wetter winters) having an effect on all levels of society.
- 6.17 There may be several effects of climate change on ground and groundwater conditions such as; mobilising contaminants or increase in off-site transport, alter the nature of contaminants, undermine structures through erosion or soil volume changes, degrade land quality by causing subsidence or landslides, encourage wildfires, and/or altering the biodiversity.
- 6.18 It is important that potential future changes in site condition are assessed and considered when managing sites scheduled for development. The changes that may occur as a result of climate change and considered to affect the draft Order Limits are outlined in the table below.

Change	Effect	Result
Hotter drier seasonal periods	Drying out of surface soils	Desiccation of surface soils, with increase in wind may lead to airborne migration of contaminants.
Wetter seasonal periods	Increased percolation of rainwater.	Increase in leachate generation potential within zones of mobile contaminants.
	Increase in groundwater level	Displacement of ground gases from infilled ground. Flooding of mine working and mine shafts displacing mine gas to surface via mine shafts.

- 6.19 Drier ground conditions as a result of increasing temperatures and lower precipitation levels will increase the desiccation of cohesive soils within the draft Order Limits. As desiccation occurs, dust and contaminants can become airborne which can migrate along SPR linkages. A site investigation and risk assessment can be undertaken to consider the concentrations of contaminants in the proposed near surface soils. If any elevated concentrations are present, mitigation should be suitably designed.

- 6.20 An increase in precipitation on soils that are impacted with contaminants could cause these contaminants to become mobile through leachate generated. These mobile contaminants may migrate to nearby surface water or surface where the receptors can be become impacted. The risk assessment should consider the mobility of contaminants, where appropriate, in order to ensure adequate design is incorporated.
- 6.21 A rise in groundwater level caused by wet weather may result in the rapid displacement of ground gases present within infilled land and mine workings, including mine shafts. Shafts would act as preferential pathways should any confined spaces be included within the design. With no permanent buildings included in the Proposed Development, it is considered that any displaced mine gases would ventilate to atmosphere and not accumulate in a manner that would represent a risk to identified receptors in the Proposed Development. Once the finalised plans are available, this statement should be reviewed to assess the risk to substations and battery storage.

7 GEOTECHNICAL ASSESSMENT

Coal Mining

- 7.1 Information available from the online Coal Authority Interactive Map has indicated that the draft Order Limits are located both within a Coal Mining Reporting Area and a Development High Risk Area and, as such, a Coal Mining Risk Assessment would normally be required. It is understood that the nature of the Proposed Development, solar array placement, is exempt (Part B – Exempt by nature of development), however on the basis of the number of coal mining constraints identified and the potential for the development to comprise the construction of sensitive structures (i.e., inverter stations etc) coupled with the identification of evidence of damage at the ground surface associated with mine entries; it is considered prudent to undertake a Coal Mining Risk Assessment and Mining Appraisal to further categorise the risks.
- 7.2 This assessment has identified that the potential risks to the Proposed Development from coal mining legacy are recorded and unrecorded shallow, abandoned mine workings, recorded and unrecorded mine entries, mine gas, the presence of coal

subcrops and former opencast excavation areas (including significant thicknesses of opencast backfill and buried highwalls).

7.3 The detailed development proposals should consider the coal mining legacy risks to the development, in order to inform a finalised / detailed layout plan. It is envisaged that a detailed Coal Mining Risk Assessment should be prepared and which should comprise the following:

- A detailed review of the CA Consultants Mining Report including information relating recorded mine entries within influencing distance of proposed infrastructure and buildings etc.
- Liaison with the CA to obtain relevant copies of source records for recorded mine entries, copies of opencast completion plans and abandoned mine plans showing the extent of recorded, shallow mine workings (where available).
- Interpretation, assessment and georeferencing of the above documents obtained from the CA to categorise risk areas of the draft Order Limits and to proposed mitigation measures, where appropriate.

7.4 The completion of the CMRA will consider the nature of the development and ensure that the proposed mitigation is proportionate; such mitigation may involve the positioning of sensitive infrastructures outside of high-risk areas (i.e., mine entry potential zone of instability etc), investigation and treatment of shallow mine workings and mine entries and delineation of any former opencast highwalls. It is envisaged that intrusive investigation and treatment would only be warranted in areas where the risk cannot be reduced or removed by other methods (relocation of infrastructure to low-risk areas etc).

Geotechnical Risk Register

7.5 Based on the available information, the risks from past use and ground instability have been considered.

7.6 The Proposed Development layout has been taken into consideration when determining the considered geotechnical risk. Should the layout be changed the stated risk may need to be re-assessed. The development also includes associated infrastructure (cable routes) which are to be finalised at time of writing.

7.7 Table 8.1 presents the preliminary geotechnical risk register for the draft Order Limits, noting potential constraints for the Proposed Development. This assessment is site specific and based on the information obtained from this desk study. A ground investigation may prove useful to determine the exact ground conditions present.

Table 8.1 - Tabulated Preliminary Geotechnical Risk Register				
Risk Item	Description	Implication/Impact	Considered Risk	Design Stage Recommendation
Made Ground.	Potential instability from non-engineered backfill of opencast and smaller pits/ponds.	Localised subsidence and compressible ground leading to damage of infrastructure.	Moderate	Solar array are lightweight infrastructure. They should be designed to allow for movement between panels.
Historical coal Mining at shallow depth.	Worked coal seams means there are voids within shallow strata.	Ground subsidence and instability, loss of ground, generation of crown holes.	Moderate/ Low	Solar arrays are typically lightweight infrastructure. Where the risk is unable to be removed or reduced to an acceptable (low) level, then the development proposals should aim to relocate sensitive infrastructure outside of higher risk areas, where necessary.
Historical mine entries.	The CA report a number of unrecorded mine entries on and within influencing distance of the draft Order Limits; furthermore, there is the potential for unrecorded mine entries to be present.	Catastrophic collapse of mine entries leading to ground instability or voids at the ground surface. Settlement of the ground surface above / adjacent to the mine entry. Generation of crown holes at the ground surface. Mine gas emissions.	High	Further desk-based research should be undertaken under separate cover to further categorise the risks. The development proposals should consider the presence of mine entries and should inform the finalised / detailed layout plan.
Shrink swell clays.	Very low risk across the whole draft Order Limits with areas of Low risk adjacent to Lostrigg Beck.	Subsidence and heave leading to damage of infrastructure.	Very Low to Low	Solar array to be designed to allow for movement between panels in areas closest to Lostrigg Beck.

Risk Item	Description	Implication/Impact	Considered Risk	Design Stage Recommendation
Running sands.	Very Low across draft Order Limits with Low risk associated with watercourse.	Potential for ground movement where ground becomes saturated.	Very Low to Low	Anchors of solar array to be sufficient to allow for potential movement of ground.
Compressible deposits.	Primarily Negligible risk with areas of Moderate risk close to Lostrigg Beck.	Differential settlements may cause damage to infrastructure.	Negligible to Moderate	Solar array to be designed to allow for movement between panels in areas closest to Lostrigg Beck.
Landslide deposits.	Overall Very Low risk with sporadic areas of Low risk.	Slope stability issue leading to damage of infrastructure.	Very Low to Low	Anchors of solar array to be sufficient to allow for potential movement of ground.
Collapsible deposits.	Very Low risk identified across the Site.	Subsidence and damage to infrastructure if soils are overloaded or saturated.	Very low	Solar array are lightweight infrastructure. Risk associated with ancillary infrastructure.

Climate Change

- 7.8 As part of the production of this risk register, Wardell Armstrong have considered the likely changes from the current known baseline that are to occur within the draft Order Limits during the project lifespan as a result of climate change.
- 7.9 The changes that may occur as a result of climate change and considered to affect the draft Order Limits are outlined in table 8.2 below.

Change	Effect	Result
Wetter drier seasonal periods	Increased rainfall.	Increase in saturation of soils leading to instability and potential for landslides.
		Increase in the potential for surface water flooding, and flooding of Lostrigg Beck.
	Groundwater flooding	Increase in saturation of soils leading to instability and potential for running sand.
		Increased fluctuation of groundwater level, including flooding of mine workings and mine shafts.

Table 8.2 – Considered Site-Specific Climate Change Effects		
Change	Effect	Result
Changes to the hydrogeological cycle causing drying and saturation of shallow soils	Shrink and heave of shallow clay-based soils.	Increased rainfall may cause clay-based soils with a volume change potential to swell causing movement of foundations. During dry periods, soils may shrink, also causing damage. This shrink effect can be exacerbated by the presence of nearby trees/ future tree planting.

- 7.10 As part of these considerations and as part of the risk assessment undertaken, WA has identified the following geotechnical constraints.
- 7.11 Numerous surface watercourses are present within the draft Order Limits. Surface water flooding within areas associated with surface watercourse is to be expected during periods of increased precipitation. This will be further quantified through the completion of a Flood Risk Assessment, undertaken by others.
- 7.12 Running sand of moderate change potential are recorded across the draft Order Limits, primarily close to Lostrigg Beck. During wetter periods there will be the potential for unstable ground conditions associated with these areas of the draft Order Limits.

8 CONCLUSIONS AND RECOMMENDATIONS

- 8.1 This report is prepared for RWE Renewables UK Solar and Storage Limited to provide preliminary information pertinent to the geo-environmental and geotechnical nature of the draft Order Limits. The draft Order Limits is located at Winscales and comprises approximately 478 hectares of primarily agricultural land.
- 8.2 The historical map review indicated that from earliest mapping the draft Order Limits comprises undeveloped fields and moorland with sporadic buildings. Evidence of historical ground workings are evident through records of quarries and collieries both within the boundary and off-site. A rifle range was recorded between 1925 and 1994.
- 8.3 The draft Order Limits is located within a Coal Mining Reporting Area and a Development High Risk Area, being predominately underlain by Pennine Lower Coal Measures and Pennine Middle Coal Measures. A small area of Pennine Upper Coal Measures Formation is faulted up into the Site in the north-east.

- 8.4 Numerous seams present on Site have been worked, occurring at various times between approximately 1828 until 1959, with approximately 196 mine shafts and 10 adits associated with both underground and opencast mining. The majority of these mine entries are recorded as untreated.
- 8.5 Based on the available information summarised in this report the Site is generally considered to present a Very Low to Moderate/Low risk from historical uses. The most significant sources of contamination identified (Moderate/Low risk) are associated with historical underground mining legacy and exposure to potential contaminants in Made Ground during the construction phase.
- 8.6 WA has considered the SPR linkages with respect to the current baseline and how climate change effects may affect these. Given the Proposed Development, the effects of climate change are unlikely to impact on this development.
- 8.7 Based on the available information summarised in this report, the Site is generally considered to present a Very Low to Low geotechnical risk, however the presence of coal mining requires further work, through the completion of a coal mining risk assessment.
- 8.8 WA has considered the geotechnical hazards with respect to the current baseline and how climate change effects may affect these. An increase in rainfall and saturation of the soils may lead to instability causing landslides, and/or running sands.

Recommendations

- 8.9 Based on the available information, it is considered that the draft Order Limits is suitable for the Proposed Development, with some mitigation measures in place.
- 8.10 It is assumed that groundworkers will wear appropriate PPE throughout the works and follow good hygiene practices. The contractor undertaking the installation of the cable routes should consider the risk of mine gas and ground gases within any confined space and ensure the risks of these are mitigated.
- 8.11 If works are to take place in dry months, with vehicles driving along trackways over the areas of infilled ground, it is recommended that this is dampened down with water

mist to mitigate against the production of dust that can be inhaled or ingested by construction workers.

- 8.12 Given the nature of the development, installation of solar array, the designer should ensure that anchors are appropriately designed for the ground conditions encountered at the draft Order Limits.
- 8.13 It may be considered prudent to undertake limited site investigation works to better quantify the concentrations of potential contaminants in the areas of the Site where Made Ground has been recorded by the BGS and disturbance is required to construct the solar array and/or cable routes. Gas monitoring can also be included within any site investigation works undertaken to provide baseline information to help inform contractor's risk assessments for working in confined spaces (especially during installation of cables).
- 8.14 This assessment has highlighted the presence of a number of coal mining legacy constraints that are able to be captured and assessed within the geotechnical design of the Proposed Development. It is proposed that, whilst the nature of the development may not otherwise require the preparation of a Coal Mining Risk Assessment, further consideration and review of the identified mining legacy risks is to be undertaken under separate cover, to inform a detailed scheme design and the scope of any appropriate construction mitigations.

Sustainability

- 8.15 The development should consider sustainable means of construction throughout the project, from initiation and design, through to groundworks. The development should balance the environmental, social and economic benefits in order to deliver the best possible sustainable project.

APPENDICES

Appendix 1

Standard Terms and Conditions and Limitations to the Report

STANDARD TERMS AND CONDITIONS AND LIMITATIONS TO REPORTS

This Report is provided for the stated purpose and for the sole use of the client in accordance with the Terms and Conditions of Appointment under which the services were performed. The Report is confidential to the client and no other warranty, expressed or implied, is made as to the professional advice included in the Report or any other services provided by Wardell Armstrong LLP. This Report may not be disclosed by the Client nor relied upon by any other party without the prior and express written agreement of Wardell Armstrong LLP.

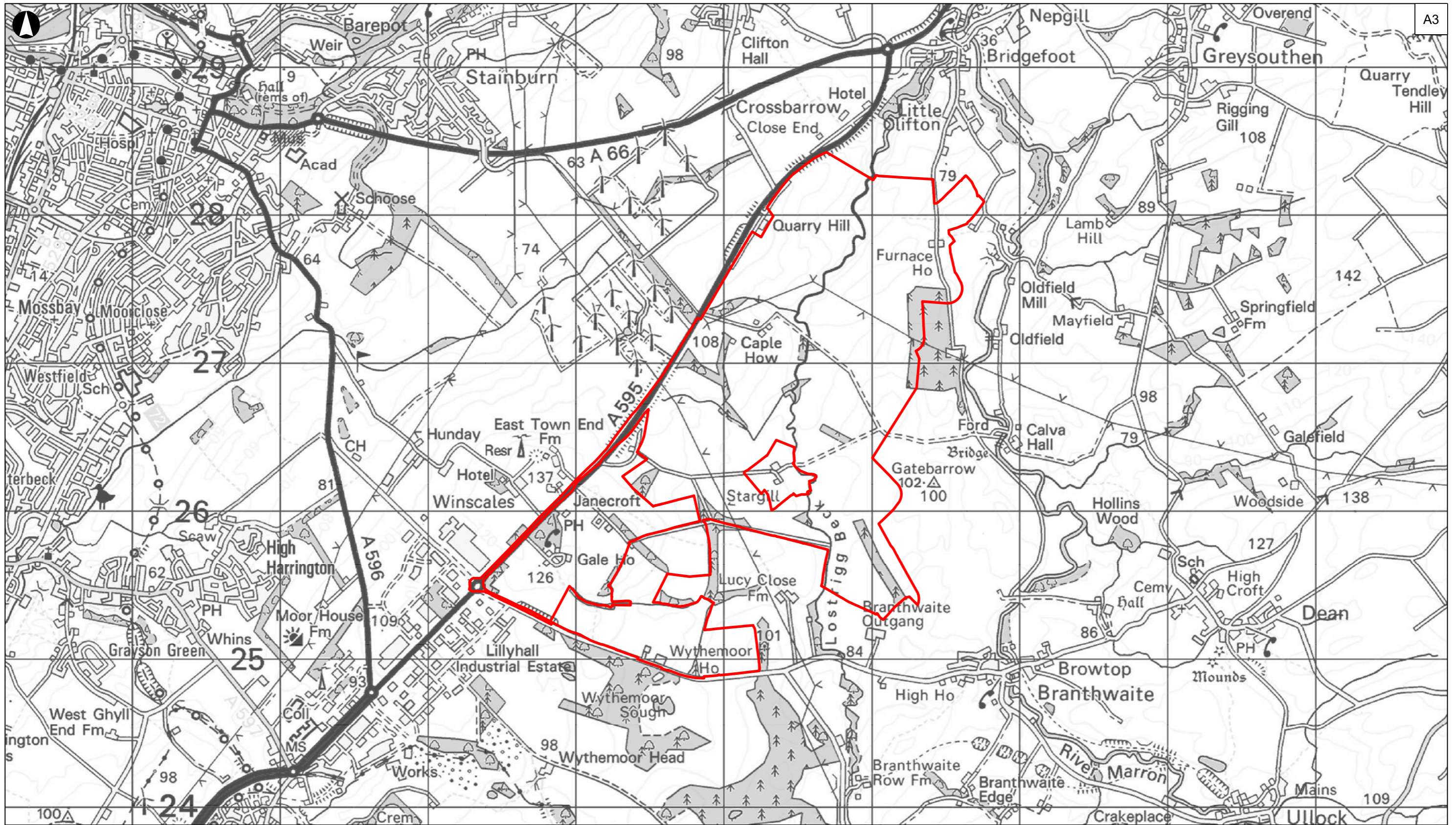
The conclusions and recommendations contained in this Report are based upon information provided by others including details supplied by the client and/or professional advisors on the assumption that all relevant information from whom it has been requested and/or supplied is accurate. Information so provided and/or supplied has not been verified independently by Wardell Armstrong LLP, unless otherwise stated in the Report.

The methodology adopted and the sources of information used by Wardell Armstrong LLP in providing the services are outlined in this Report. The work described in this Report is based on the conditions and information as stated at the date the Report was completed. The scope of this Report and the services are accordingly limited by these circumstances. The findings outlined in the Report together with any opinions expressed and recommendations made are considered to be valid and appropriate at the time of preparation and for the specific purpose or purposes intended. Whilst a walk over site visit may have been carried out as part of the work this has been limited to observations only and no other physical investigations, sampling and testing work has been carried out as part of this work.

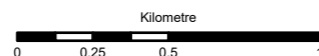
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Where any site observations have been carried out, these have been restricted to a level of detail required to meet the stated objectives of the services. The results from any site observations made may vary and further confirmatory work should be made after the issuance of this Report. Wardell Armstrong LLP does not guarantee or warrant any estimates or projections contained in this Report.

Appendix 2
RWE Site Location Plan



Legend
 draft Order Limits



Coordinate System: British National Grid

Service or layer credits:

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P01	22/05/2024	SRW	TP	BD	DB
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Rev	Date	By	Chkd	Appd	Authd

Client



Project Name

Lostrigg Solar

Drawing Title

Figure 7.1 Site Location Plan

Scale at A3

1:25,000

Role

Scoping Report

Suitability
Issue

Project Number
300884-00

Rev
P01

Drawing Number
LSF-SR07-00001

Appendix 3
Guidance on Contamination and Land Quality Statements

CONTAMINATION

Environmental Protection Act Part IIA

Contaminated land was defined for the first time under Part IIA of the Environmental Protection Act 1990. Part IIA was inserted into the 1990 Act by section 57 of the *Environment Act 1995*. The regime came into effect in England on 1 April 2000, Scotland on 12 July 2000 and Wales on 15 September 2001.

Contaminated land is defined as “any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

- (a) significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused.”

Harm is described in the EPA 1990 as being “*harm to the health of living organisms or other interference with ecological systems of which they form part and, in the case of man, includes harm to his property*”.

There are a number of important government policies and priorities underlying the Act. The first priority is to prevent the creation of new contamination by use of this Act and other controls such as Environmental Permitting (formerly regulated by Integrated Pollution Prevention and Control and Waste Management licensing). The second is to identify and remove unacceptable risks to human health and the environment. In addition there is a desire to bring contaminated land back into beneficial use whilst seeking to ensure that the cost burdens faced by individuals, companies and society as a whole are proportionate, manageable and economically sustainable.

Under Part II(a), Local Authorities are responsible for the inspection of contaminated land and for ensuring that remediation is undertaken where necessary. Local Authorities also maintain a Public Register detailing the regulatory actions that they have implemented. The Environment Agency has a complementary role and act as the enforcing Authority for designated special sites.

The policy objectives are underlain by the "suitable for use" approach to the remediation of contaminated land, which the Government considers is the most appropriate approach

to achieving sustainable development. This approach recognises that the risks presented by any given level of contamination will vary greatly on a site by site basis.

In general the responsibility for paying for remediation will, where feasible, follow the "polluter pays" principle. In the first instance, any person who caused or knowingly permitted the contaminating substance to be in, or under the land will be the appropriate person(s) to undertake the remediation and meet its costs. If it is not possible to find such a person, responsibility will pass to the current owner or occupier of the land.

Planning Regime

Land contamination, or the possibility of it, is a material consideration for the purposes of town and country planning. This means that the planning authority has to consider the potential implications of contamination both when it is developing structure or local plans and when it is considering individual applications for planning permission. Under the suitable for use approach, risks should be assessed and remediation requirements set, on the basis of both the current use and its proposed new use.

Model Procedures for the Management of Contaminated Land - LCRM Guidance on Contaminated Land Risk Assessment

In the UK, contaminated land is regulated by the planning and development control system and the contaminated land regime set out in Part 2A of the Environmental Protection Act (EPA) 1990.

When considering an application for development, the potential for the land to be contaminated is a material consideration, and the local planning authority should satisfy itself that any contamination is properly assessed and adequately remediated, based on a suitable for use approach. This is to ensure that the land is made suitable for its proposed new use.

Guidance on the investigation of contamination is contained in British Standard 10175: 2011 (+A2-2017) "Investigation of potentially contaminated sites - Code of Practice". It involves an identification of risks due to the presence of contaminants, and an assessment of those risks based on the:

- possible sources of contamination;
- identification of who or what may be affected by the contaminants (the receptors);
- possible pathways by which contaminants may migrate to one or more of the receptors.

A conceptual site model is a representation of the environmental processes that occur on and in the vicinity of the site and its purpose is to identify the potential contamination linkages that exist on the site. The assessment of the significance of these contamination linkages can then be carried out through the risk assessment process.

Since the conceptual site model underpins each stage of contaminated land management, BS10175: 2011 (+A2-2017) suggests that such a model should be developed for every site. Accordingly, the results of the desk study research on the site have been used to identify the source- pathway-receptor relationships that exist on the site before and during redevelopment works.

A conceptual site model is a representation of the environmental processes that occur on and in the vicinity of the site and its purpose is to identify the potential contamination linkages that exist on the site. The assessment of the significance of these contamination linkages can then be carried out through the risk assessment process.

In line with the guidance of BS21365:2020 “Soil quality – Conceptual site models for potentially contaminated sites” and LCRM, the conceptual site model can be presented in different ways, such as: written description of the site; tabular or matrix description; and/or drawing or diagrammatic illustration, where the complexity of the model should be consistent with the complexity of the site.

Environmental Risk Assessment Methodology

In line with EA guidance LCRM, plausible source, pathway and receptor linkages have been identified through the Conceptual Site Model (CSM). The information gathered in the CSM can now be used to carry out a Qualitative Risk Assessment (QRA).

The LCRM outlines that for each tier of Risk Assessment the following steps must be taken:

1. Identify the hazard - establish contaminant sources.
2. Assess the hazard - use a source-pathway-receptor (S-P-R) linkage approach to find out if there is the potential for unacceptable risk.
3. Estimate the risk - predict what degree of harm or pollution might result and how likely it is to occur by using the tiered approach to risk assessment.
4. Evaluate the risk - decide whether a risk is unacceptable.

The LCRM states that the assessment must be based on the potential severity that the risk poses to the receptors against the likelihood of it happening. Subsequently, it is necessary to employ a risk assessment matrix, the CIRIA document Contaminated Land Risk Assessment – a guide to good practice C552, 2001 provides a good example of a suitable risk assessment matrices.

In the CIRIA methodology, the sensitivity assessment considers the contaminant-pathway- receptor in conjunction with the contamination linkage concept (described below). This information is then used to classify consequences and the probability of a contamination linkage occurring, affording the level of sensitivity of a given receptor to be established.

Contamination Linkage Concept

In forming a risk assessment for land contamination, there are three essential elements to be given consideration collectively known as a 'contaminant linkage':

- A contaminant/source – A substance that is in, on or under the land and has potential to cause harm or to cause pollution of controlled waters.
- A receptor – in general terms, something that could be adversely affected by a contaminant, these can include people, an ecological system, property or a water body; and
- A pathway – a route or means by which a receptor can be exposed to or affected by a contaminant.

Each of these elements can exist independently, but they create a risk where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. This kind of linked combination of contaminant-pathway-receptor is described as a contaminant linkage.

Sensitivity Assessment Criteria

By considering the contaminant, pathways and receptors, an assessment of the environmental risk is made with reference to the degree of sensitivity of the receptor to a contaminant.

The qualitative sensitivity assessment is conducted by determining the severity of the potential consequences, taking into account the probability of risk and by considering the sensitivity of the receptor based on the categories below. It follows CIRIA documents C552 terminology and methodology as summarised:

$$\begin{array}{ccccccc}
 \text{Potential Consequences} & & \times & & \text{Probability of Risk} & = & \text{Sensitivity} \\
 \text{(Table 1)} & & & & \text{(Table 2)} & = & \text{(Table 3)}
 \end{array}$$

Table 1 presents the consequences to the receptor of the contaminant linkage being realised. It has four categories, with severe being the most serious and minor being the least serious consequences:

Table 1 – Consequence of Risk Being Realised			
Classification	Category	Definition	Examples (Not necessarily specific to this site)
Severe short-term (acute) risks only	Humans	Short-term (acute) risk to human health likely to result in “significant harm” as defined by the Environment Protection Act 1990, Part 2A.	High concentrations of cyanide on the surface of an informal recreation area.
	Controlled Waters	Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource.	Major spillage of contaminants from site into controlled water.
	Property	Catastrophic damage to buildings/property.	Explosion causing building collapse (can also equate to a short-term human health risk if buildings are occupied.
	Ecological System	A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.	
Medium chronic (long term) risks; “significant harm”	Humans	Chronic damage to Human Health (“significant harm” as defined in Defra 2006).	Concentrations of a contaminant from site exceed the generic, or site-specific assessment criteria
	Controlled Waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution).	Leaching of contaminants from a site into a major or minor aquifer.
	Ecological System	A significant change in a particular ecosystem	Death of a species within a designated nature reserve.

Table 1 – Consequence of Risk Being Realised			
Classification	Category	Definition	Examples (Not necessarily specific to this site)
Mild chronic (long term) risks; fewer sensitive receptors	Controlled Waters	Pollution of non-sensitive water resources.	Pollution of non-classified groundwater
	Property	Significant damage to buildings, structures and services (“significant harm” as defined in Circular on Contaminated Land, Defra, 2006). Damage to sensitive buildings/structures/services	Damage to building rendering it unsafe to occupy (e.g., foundation damage resulting in instability)
	Ecological System	Significant damage to crops. Damage to the environment.	
Minor chronic (long term) risks; mild	Financial / project	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve.	
	Humans	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc).	The presence of contaminants at such concentrations that protective equipment is required during site works.
	Property	Easily repairable effects of damage to buildings, structures and services	The loss of plants in a landscaping scheme. Discolouration of concrete.

The likelihood of the pollution linkage being realised must take into account the presence of the source and position of the receptor as well as the pathway that connects them. Table 2 overleaf defines the likelihood of the pollution linkage occurring.

TABLE 2: Probability of Risk Being Realised	
Classification	Definition
High Likelihood	There is a contaminant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a contaminant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a contaminant linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

The potential consequences and the probability of the risk occurring are combined to form the classification of sensitivity matrix, as presented in Table 3a below. It provides a sensitivity category for potential receptors if a pollution linkage exists, allowing the level of sensitivity of a receptor in a particular circumstance can be determined.

TABLE 3a: Risk Classification Matrix					
		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/Low	Low	Very Low
	Unlikely	Moderate/Low	Low	Very Low	Very Low

TABLE 3b: Risk Classification Definitions	
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Moderate / Low	A notable balance between moderate and low categorisation. The moderate/low interface.
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Under each of the contaminant linkage categories, the identified environmental risks have been assessed with regard to a wide range of topics including (where appropriate):

- the 'source-pathway-receptor' concept;
- the behaviour of potential contaminants within the environment;
- environmental processes;
- industrial operations and best practice;
- current environmental legislation;
- the views and practices of the environmental regulators;
- the likelihood of environmental notices, orders or other enforcement action;
- any requirements to remove waste, contaminated or hazardous materials;

- the health and safety of occupiers or neighbours;
- any redevelopment plans for the site; and
- effects on the fabric of buildings caused by contamination.

Appendix 4
Groundsure Enviro+Geo Insight Report

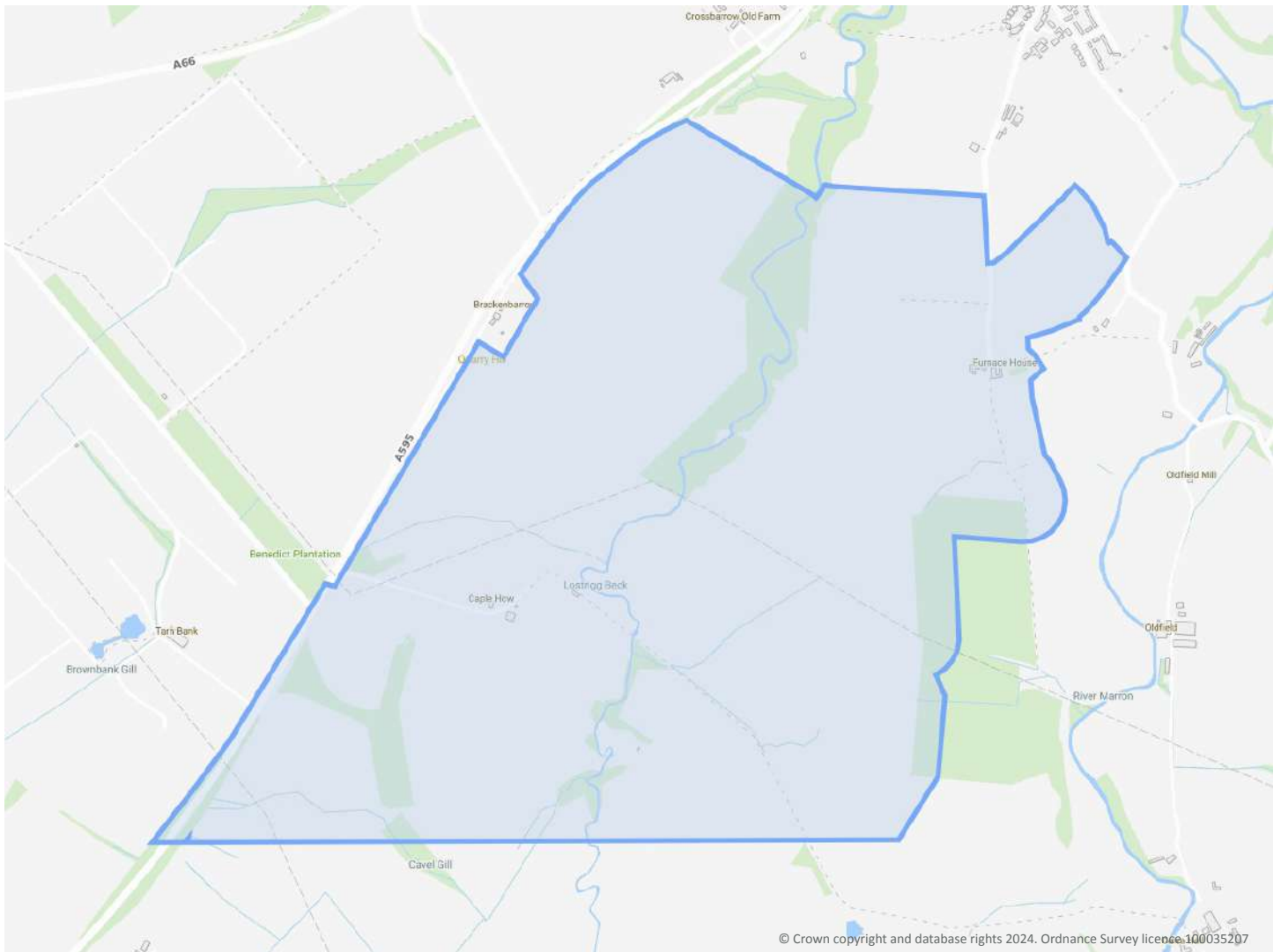
CA12978 - Cumbria

Order Details

Date: 23/04/2024
Your ref: CA12978 - Cumbria
Our Ref: GSIP-2024-14878-18377_1A

Site Details

Location: 305121 527762
Area: 245.11 ha
Authority: [Cumberland Council](#) ↗



[Summary of findings](#)

[p. 2 >](#)

[Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

N/A: >10ha

[Insight User Guide](#) ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	27	3	16	18	-
17 >	1.2 >	Historical tanks >	3	0	1	4	-
18	1.3	Historical energy features	0	0	0	0	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	33	7	22	25	-
23 >	2.2 >	Historical tanks >	3	0	1	4	-
23	2.3	Historical energy features	0	0	0	0	-
23	2.4	Historical petrol stations	0	0	0	0	-
24	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
25	3.1	Active or recent landfill	0	0	0	0	-
25	3.2	Historical landfill (BGS records)	0	0	0	0	-
26	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
26	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
26	3.5	Historical waste sites	0	0	0	0	-
26 >	3.6 >	Licensed waste sites >	0	0	0	1	-
27 >	3.7 >	Waste exemptions >	13	0	59	52	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
37 >	4.1 >	Recent industrial land uses >	12	1	9	-	-
39	4.2	Current or recent petrol stations	0	0	0	0	-
39	4.3	Electricity cables	0	0	0	0	-
39	4.4	Gas pipelines	0	0	0	0	-
39	4.5	Sites determined as Contaminated Land	0	0	0	0	-



39	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
40	4.7	Regulated explosive sites	0	0	0	0	-
40	4.8	Hazardous substance storage/usage	0	0	0	0	-
40	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
40	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
40	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
41	4.12	Radioactive Substance Authorisations	0	0	0	0	-
41 >	4.13 >	<u>Licensed Discharges to controlled waters ></u>	0	0	0	5	-
42	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
42	4.15	Pollutant release to public sewer	0	0	0	0	-
42	4.16	List 1 Dangerous Substances	0	0	0	0	-
42	4.17	List 2 Dangerous Substances	0	0	0	0	-
43 >	4.18 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	1	3	-
43	4.19	Pollution inventory substances	0	0	0	0	-
44	4.20	Pollution inventory waste transfers	0	0	0	0	-
44	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
45 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
48 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
50 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
56	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
57	5.5	Groundwater vulnerability- local information	None (within 0m)				
58 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	2
59	5.7	Surface water abstractions	0	0	0	0	0
59	5.8	Potable abstractions	0	0	0	0	0
60	5.9	Source Protection Zones	0	0	0	0	-
60	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
61 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	32	2	29	-	-



66 >	6.2 >	Surface water features >	1	1	18	-	-
67 >	6.3 >	WFD Surface water body catchments >	3	-	-	-	-
67 >	6.4 >	WFD Surface water bodies >	1	0	1	-	-
68 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
69 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
70 >	7.2 >	Historical Flood Events >	0	0	1	-	-
70	7.3	Flood Defences	0	0	0	-	-
70	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
71	7.5	Flood Storage Areas	0	0	0	-	-
72 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
73 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
74 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
76 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
77 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	1	0	0
78	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
78 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	1	0	0
79	10.4	Special Protection Areas (SPA)	0	0	0	0	0
79	10.5	National Nature Reserves (NNR)	0	0	0	0	0
79	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
79 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	7
80	10.8	Biosphere Reserves	0	0	0	0	0
80	10.9	Forest Parks	0	0	0	0	0
80	10.10	Marine Conservation Zones	0	0	0	0	0
80	10.11	Green Belt	0	0	0	0	0
81	10.12	Proposed Ramsar sites	0	0	0	0	0



81	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
81	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
81	10.15	Nitrate Sensitive Areas	0	0	0	0	0
82	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
83 >	10.17 >	SSSI Impact Risk Zones >	8	-	-	-	-
89 >	10.18 >	SSSI Units >	0	0	1	0	1
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
92	11.1	World Heritage Sites	0	0	0	-	-
93	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
93	11.3	National Parks	0	0	0	-	-
93 >	11.4 >	Listed Buildings >	0	0	1	-	-
94	11.5	Conservation Areas	0	0	0	-	-
94 >	11.6 >	Scheduled Ancient Monuments >	0	0	1	-	-
94	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
95 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
96	12.2	Open Access Land	0	0	0	-	-
96 >	12.3 >	Tree Felling Licences >	5	8	1	-	-
97 >	12.4 >	Environmental Stewardship Schemes >	7	3	2	-	-
98 >	12.5 >	Countryside Stewardship Schemes >	6	1	1	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
99 >	13.1 >	Priority Habitat Inventory >	48	6	8	-	-
103 >	13.2 >	Habitat Networks >	12	1	4	-	-
104	13.3	Open Mosaic Habitat	0	0	0	-	-
104	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
105 >	14.1 >	10k Availability >	Identified (within 500m)				
106	14.2	Artificial and made ground (10k)	0	0	0	0	-
107	14.3	Superficial geology (10k)	0	0	0	0	-

107	14.4	Landslip (10k)	0	0	0	0	-
108	14.5	Bedrock geology (10k)	0	0	0	0	-
108	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
109 >	15.1 >	50k Availability >	Identified (within 500m)				
110 >	15.2 >	Artificial and made ground (50k) >	1	2	0	1	-
111 >	15.3 >	Artificial ground permeability (50k) >	1	2	-	-	-
112 >	15.4 >	Superficial geology (50k) >	5	3	7	8	-
113 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
114	15.6	Landslip (50k)	0	0	0	0	-
114	15.7	Landslip permeability (50k)	None (within 50m)				
115 >	15.8 >	Bedrock geology (50k) >	18	2	3	7	-
117 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
118 >	15.10 >	Bedrock faults and other linear features (50k) >	51	4	14	23	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
122 >	16.1 >	BGS Boreholes >	99	28	45	-	-
Page	Section	Natural ground subsidence >					
130 >	17.1 >	Shrink swell clays >	Low (within 50m)				
132 >	17.2 >	Running sands >	Low (within 50m)				
134 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
136 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
138 >	17.5 >	Landslides >	Low (within 50m)				
140 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
142 >	18.1 >	BritPits >	1	1	0	0	-
143 >	18.2 >	Surface ground workings >	33	7	21	-	-
145 >	18.3 >	Underground workings >	1	0	0	0	2
146	18.4	Underground mining extents	0	0	0	0	-
146	18.5	Historical Mineral Planning Areas	0	0	0	0	-



146 >	18.6 >	Non-coal mining >	22	2	3	8	16
152	18.7	JPB mining areas	None (within 0m)				
152	18.8	The Coal Authority non-coal mining	0	0	0	0	-
153 >	18.9 >	Researched mining >	32	4	15	9	-
155	18.10	Mining record office plans	0	0	0	0	-
155	18.11	BGS mine plans	0	0	0	0	-
156 >	18.12 >	Coal mining >	Identified (within 0m)				
156	18.13	Brine areas	None (within 0m)				
156	18.14	Gypsum areas	None (within 0m)				
156	18.15	Tin mining	None (within 0m)				
156	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
157	19.1	Natural cavities	0	0	0	0	-
158	19.2	Mining cavities	0	0	0	0	0
158	19.3	Reported recent incidents	0	0	0	0	-
158 >	19.4 >	Historical incidents >	0	0	0	3	-
159	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
160 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
162 >	21.1 >	BGS Estimated Background Soil Chemistry >	150	18	-	-	-
168	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
168	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
169	22.1	Underground railways (London)	0	0	0	-	-
169	22.2	Underground railways (Non-London)	0	0	0	-	-
170	22.3	Railway tunnels	0	0	0	-	-
170	22.4	Historical railway and tunnel features	0	0	0	-	-
170	22.5	Royal Mail tunnels	0	0	0	-	-



170 >	22.6 >	Historical railways >	0	0	1	-	-
171	22.7	Railways	0	0	0	-	-
171	22.8	Crossrail 1	0	0	0	0	-
171	22.9	Crossrail 2	0	0	0	0	-
171	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 17/07/2021

Site Area: 245.11ha



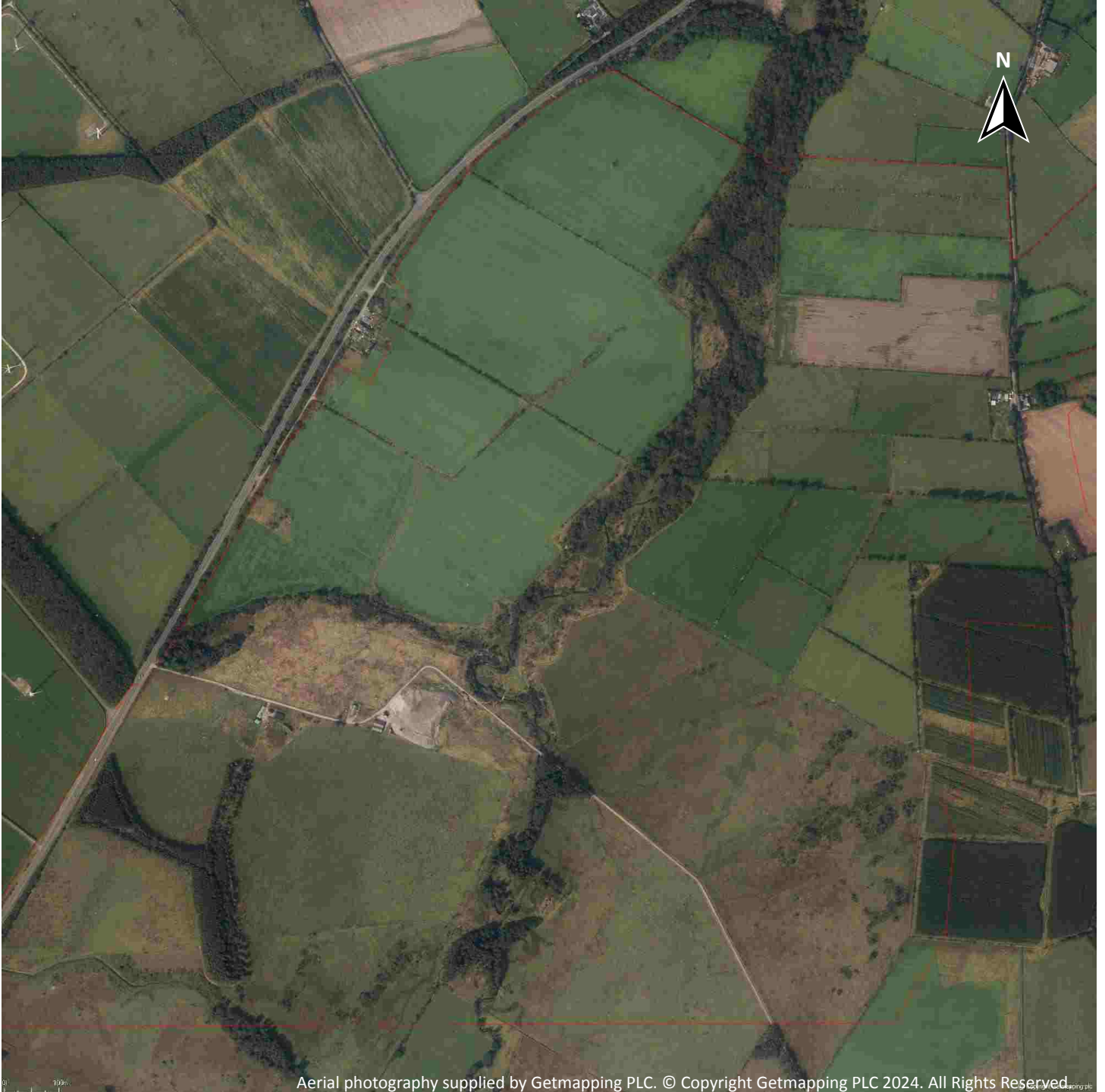
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

Recent site history - 2019 aerial photograph



Capture Date: 24/08/2019

Site Area: 245.11ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

Recent site history - 2016 aerial photograph



Capture Date: 16/08/2016

Site Area: 245.11ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

Recent site history - 2008 aerial photograph



Capture Date: 05/10/2008

Site Area: 245.11ha



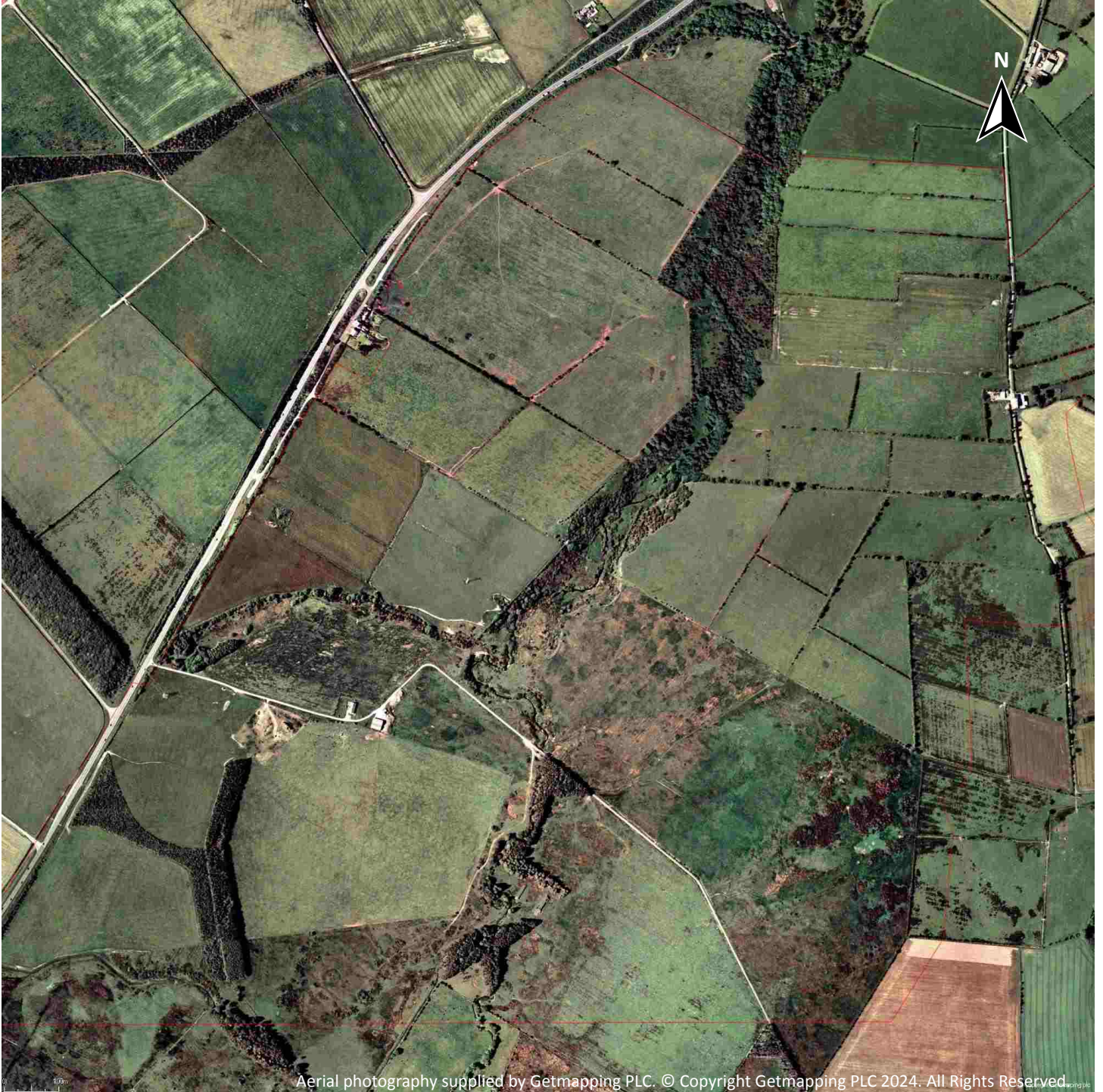
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

Recent site history - 2000 aerial photograph



Capture Date: 16/06/2000

Site Area: 245.11ha



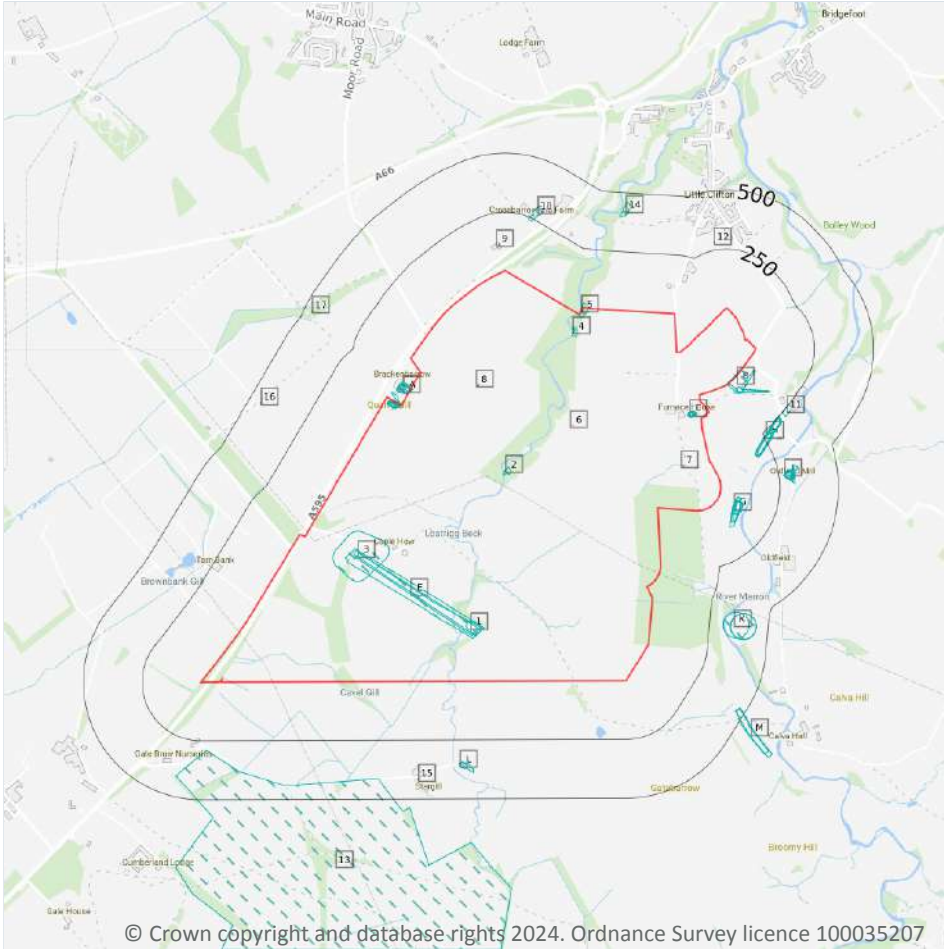
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

1 Past land use



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

1.1 Historical industrial land uses

Records within 500m **64**

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 14 >](#)

ID	Location	Land use	Dates present	Group ID
1	On site	Disused Butts	1981	556616



ID	Location	Land use	Dates present	Group ID
2	On site	Unspecified Heap	1864	561949
3	On site	Disused Rifle Range	1981	567552
4	On site	Unspecified Pit	1981	582784
5	On site	Unspecified Pit	1992	582786
A	On site	Unspecified Quarry	1926	558983
A	On site	Unspecified Old Quarries	1898	572932
A	On site	Unspecified Ground Workings	1947	581455
A	On site	Unspecified Pit	1981	610895
A	On site	Unspecified Pit	1951	618026
B	On site	Unspecified Drift	1951	560633
B	On site	Unspecified Disused Works	1970 - 1992	628802
C	On site	Unspecified Old Quarry	1898	575183
C	On site	Unspecified Quarry	1947	598022
C	On site	Unspecified Quarry	1926	613505
C	On site	Unspecified Ground Workings	1923	617635
C	On site	Unspecified Quarry	1951	632794
D	On site	Unspecified Ground Workings	1981	581465
D	On site	Unspecified Heap	1926	590230
D	On site	Unspecified Heap	1951	592922
D	On site	Unspecified Heap	1947	593239
D	On site	Unspecified Heap	1981	603049
D	On site	Unspecified Heap	1864	623967
D	On site	Unspecified Heap	1898	638302
E	On site	Rifle Range	1926 - 1947	597994
E	On site	Rifle Range	1923	604636
E	On site	Rifle Range	1951	612773
A	33m NW	Unspecified Heap	1981	561955
F	34m NE	Unspecified Ground Workings	1923	593515



ID	Location	Land use	Dates present	Group ID
F	37m NE	Unspecified Ground Workings	1926	606383
G	69m E	Cuttings	1898	600112
G	69m E	Cuttings	1947	613238
G	71m E	Cuttings	1923	621110
G	72m E	Cuttings	1951	624728
G	76m E	Cuttings	1926	589735
G	78m E	Cuttings	1970	612009
G	79m E	Cuttings	1992	595751
H	181m E	Cuttings	1923	617659
H	182m E	Cuttings	1992	619049
H	182m E	Cuttings	1926 - 1951	631849
H	183m E	Cuttings	1898	601803
H	193m E	Cuttings	1970	632480
10	237m N	Pottery	1864	554599
I	247m E	Cuttings	1947	606248
I	247m E	Cuttings	1898	616745
11	249m E	Cuttings	1970	584888
I	251m E	Cuttings	1970	620676
J	270m E	Mill	1923	597836
J	271m E	Unspecified Mill	1947	593178
J	271m E	Unspecified Mill	1898	629908
J	272m E	Unspecified Mill	1926	623969
J	274m E	Corn Mill	1864	553830
J	290m E	Unspecified Mill	1951	592860
13	290m SW	Opencast Workings	1981	556607
J	297m E	Unspecified Old Mill	1970	581041
J	300m E	Unspecified Mill	1992	606588
K	309m SE	Unspecified Hole	1864	630218



ID	Location	Land use	Dates present	Group ID
K	340m SE	Unspecified Hole	1947	609770
K	340m SE	Unspecified Hole	1898	629321
L	343m S	Unspecified Pit	1947 - 1951	632326
L	347m S	Unspecified Pit	1981	636437
14	397m NE	Unspecified Pit	1926	630178
M	462m SE	Cuttings	1923 - 1926	605857
M	462m SE	Cuttings	1951	610010

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

8

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

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
6	On site	Tank or Trough	1866	75691
7	On site	Tank or Trough	1866	75692
8	On site	Tank or Trough	1866	75694
9	113m N	Tank or Trough	1866	75695
12	280m NE	Tank or Trough	1866	75689
15	414m S	Tank or Trough	1866	75693
16	448m NW	Tank or Trough	1866	75717
17	464m NW	Tank or Trough	1866	75718

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

0

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

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



ID	Location	Land Use	Date	Group ID
4	On site	Unspecified Pit	1981	582784
5	On site	Disused Rifle Range	1981	567552
A	On site	Unspecified Ground Workings	1947	581455
A	On site	Unspecified Pit	1951	618026
A	On site	Unspecified Pit	1981	610895
A	On site	Unspecified Quarry	1926	558983
A	On site	Unspecified Old Quarries	1898	572932
B	On site	Unspecified Heap	1864	623967
B	On site	Unspecified Heap	1947	593239
B	On site	Unspecified Heap	1898	638302
B	On site	Unspecified Heap	1951	592922
B	On site	Unspecified Heap	1981	603049
B	On site	Unspecified Ground Workings	1981	581465
B	On site	Unspecified Heap	1926	590230
B	On site	Unspecified Heap	1926	590230
C	On site	Rifle Range	1947	597994
C	On site	Rifle Range	1951	612773
C	On site	Rifle Range	1923	604636
C	On site	Rifle Range	1923	604636
C	On site	Rifle Range	1923	604636
C	On site	Rifle Range	1926	597994
D	On site	Unspecified Quarry	1951	632794
D	On site	Unspecified Ground Workings	1923	617635
D	On site	Unspecified Ground Workings	1923	617635
D	On site	Unspecified Ground Workings	1923	617635
D	On site	Unspecified Quarry	1947	598022
D	On site	Unspecified Old Quarry	1898	575183
D	On site	Unspecified Quarry	1926	613505



ID	Location	Land Use	Date	Group ID
E	On site	Unspecified Drift	1951	560633
E	On site	Unspecified Disused Works	1970	628802
A	33m NW	Unspecified Heap	1981	561955
E	34m NE	Unspecified Ground Workings	1923	593515
E	34m NE	Unspecified Ground Workings	1923	593515
E	34m NE	Unspecified Ground Workings	1923	593515
E	37m NE	Unspecified Ground Workings	1926	606383
E	37m NE	Unspecified Ground Workings	1926	606383
E	46m NE	Unspecified Disused Works	1992	628802
F	69m E	Cuttings	1947	613238
F	69m E	Cuttings	1898	600112
F	71m E	Cuttings	1923	621110
F	71m E	Cuttings	1923	621110
F	71m E	Cuttings	1923	621110
F	72m E	Cuttings	1951	624728
F	76m E	Cuttings	1926	589735
F	78m E	Cuttings	1970	612009
F	79m E	Cuttings	1992	595751
G	181m E	Cuttings	1923	617659
G	181m E	Cuttings	1923	617659
G	181m E	Cuttings	1923	617659
G	182m E	Cuttings	1951	631849
G	182m E	Cuttings	1992	619049
G	183m E	Cuttings	1947	631849
G	183m E	Cuttings	1898	601803
G	187m E	Cuttings	1926	631849
G	193m E	Cuttings	1970	632480
10	237m N	Pottery	1864	554599



ID	Location	Land Use	Date	Group ID
H	247m E	Cuttings	1947	606248
H	247m E	Cuttings	1898	616745
11	249m E	Cuttings	1970	584888
H	251m E	Cuttings	1970	620676
I	270m E	Mill	1923	597836
I	270m E	Mill	1923	597836
I	270m E	Mill	1923	597836
I	271m E	Unspecified Mill	1947	593178
I	271m E	Unspecified Mill	1898	629908
I	272m E	Unspecified Mill	1926	623969
I	274m E	Corn Mill	1864	553830
I	290m E	Unspecified Mill	1951	592860
13	290m SW	Opencast Workings	1981	556607
I	297m E	Unspecified Old Mill	1970	581041
I	300m E	Unspecified Mill	1992	606588
J	309m SE	Unspecified Hole	1864	630218
J	340m SE	Unspecified Hole	1947	609770
J	340m SE	Unspecified Hole	1898	629321
K	343m S	Unspecified Pit	1951	632326
K	347m S	Unspecified Pit	1981	636437
K	348m S	Unspecified Pit	1947	632326
L	397m NE	Unspecified Pit	1926	630178
L	397m NE	Unspecified Pit	1926	630178
M	462m SE	Cuttings	1923	605857
M	462m SE	Cuttings	1923	605857
M	462m SE	Cuttings	1923	605857
M	462m SE	Cuttings	1951	610010
M	465m SE	Cuttings	1926	605857

This data is sourced from Ordnance Survey / Groundsure.



Contact us with any questions at:

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Date: 23 April 2024

2.2 Historical tanks

Records within 500m

8

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

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

ID	Location	Land Use	Date	Group ID
6	On site	Tank or Trough	1866	75694
7	On site	Tank or Trough	1866	75691
8	On site	Tank or Trough	1866	75692
9	113m N	Tank or Trough	1866	75695
12	280m NE	Tank or Trough	1866	75689
14	414m S	Tank or Trough	1866	75693
15	448m NW	Tank or Trough	1866	75717
16	464m NW	Tank or Trough	1866	75718

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

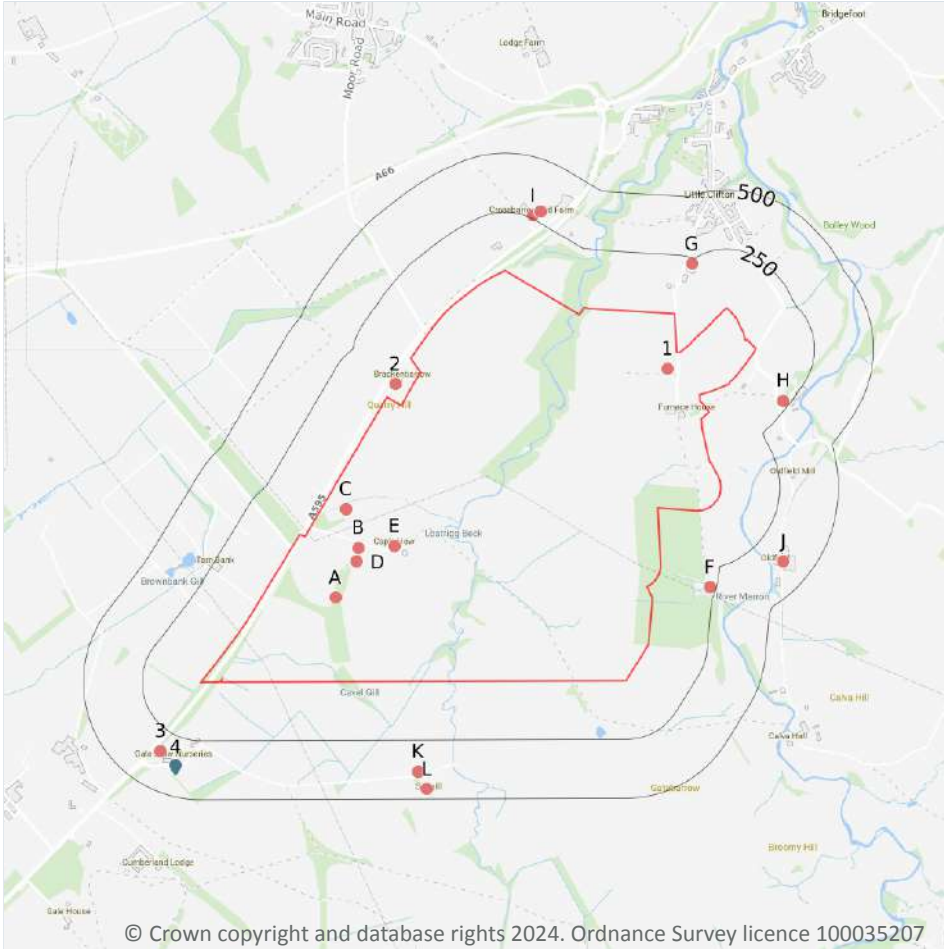
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



3.1 Active or recent landfill

Records within 500m **0**

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

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

3.2 Historical landfill (BGS records)

Records within 500m **0**

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

1

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

Features are displayed on the Waste and landfill map on [page 25 >](#)

ID	Location	Details		
4	380m SW	Site Name: Gale Brow, Winscales Site Address: Land / Premises At, Gale Brow, Winscales, Workington, Cumbria, CA14 4YZ Correspondence Address: -	Type of Site: Incinerator Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 656853 EPR reference: EA/EPR/FP3198EW Operator: Alan Seggie Waste Management licence No: 100397 Annual Tonnage: 438	Issue Date: 31/07/2008 Effective Date: 31/07/2008 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked

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



3.7 Waste exemptions

Records within 500m

124

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

Features are displayed on the Waste and landfill map on [page 25 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	On site	SPRINGFIELD FARM, GREYSOUTHEN, COCKERMOUTH, CA13 OUW	WEX093236	Storing waste exemption	On a farm	Storage of sludge
A	On site	-	WEX351637	Using waste exemption	On a farm	Use of waste in construction
A	On site	-	WEX351637	Treating waste exemption	On a farm	Screening and blending of waste
B	On site	-	WEX369685	Using waste exemption	On a farm	Use of waste in construction
B	On site	-	WEX369685	Treating waste exemption	On a farm	Screening and blending of waste
B	On site	-	WEX242873	Using waste exemption	On a farm	Use of waste in construction
B	On site	-	WEX242873	Treating waste exemption	On a farm	Screening and blending of waste
C	On site	-	WEX372566	Treating waste exemption	On a farm	Screening and blending of waste
C	On site	-	WEX372566	Using waste exemption	On a farm	Use of waste in construction
D	On site	-	WEX372567	Treating waste exemption	On a farm	Screening and blending of waste
D	On site	-	WEX372567	Using waste exemption	On a farm	Use of waste in construction
E	On site	Capel How, Winscales, Workington, CA14 1XR	WEX382020	Using waste exemption	On a farm	Use of waste in construction
E	On site	Capel How, Winscales, Workington, CA14 1XR	WEX252673	Using waste exemption	On a farm	Use of waste in construction
2	63m NW	Capel How, Winscales, Workington, CA14 1XR	WEX111491	Using waste exemption	On a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
F	221m E	-	WEX359947	Using waste exemption	On a farm	Use of waste in construction
F	221m E	-	WEX234116	Using waste exemption	On a Farm	Use of waste in construction
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Using waste exemption	On a farm	Use of waste in construction
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Using waste exemption	On a farm	Use of waste for a specified purpose
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Using waste exemption	On a farm	Incorporation of ash into soil
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Storing waste exemption	On a farm	Storage of waste in secure containers
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Storing waste exemption	On a farm	Storage of waste in a secure place
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Using waste exemption	On a farm	Use of mulch



ID	Location	Site	Reference	Category	Sub-Category	Description
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Treating waste exemption	On a farm	Recovery of scrap metal
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Disposing of waste exemption	On a farm	Disposal by incineration
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX342472	Disposing of waste exemption	On a farm	Burning waste in the open
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Using waste exemption	On a Farm	Use of waste in construction
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Using waste exemption	On a Farm	Use of waste for a specified purpose
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Using waste exemption	On a Farm	Incorporation of ash into soil
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Treating waste exemption	On a Farm	Cleaning, washing, spraying or coating relevant waste
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Treating waste exemption	On a Farm	Aerobic composting and associated prior treatment
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Storing waste exemption	On a Farm	Storage of waste in secure containers
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Storing waste exemption	On a Farm	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Storing waste exemption	On a farm	Storage of waste in secure containers
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Storing waste exemption	On a farm	Storage of waste in a secure place
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Using waste exemption	On a farm	Use of waste in construction
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Using waste exemption	On a farm	Incorporation of ash into soil
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Using waste exemption	On a farm	Use of waste for a specified purpose
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Using waste exemption	On a Farm	Use of mulch
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Treating waste exemption	On a Farm	Recovery of scrap metal



ID	Location	Site	Reference	Category	Sub-Category	Description
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Disposing of waste exemption	On a Farm	Disposal by incineration
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX210264	Disposing of waste exemption	On a Farm	Burning waste in the open
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Disposing of waste exemption	On a farm	Disposal by incineration
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Disposing of waste exemption	On a farm	Burning waste in the open
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Treating waste exemption	On a farm	Recovery of scrap metal
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
G	222m NE	PUNDERLAND FARM, LITTLE CLIFTON, WORKINGTON, CA14 1YX	WEX060777	Using waste exemption	On a farm	Use of mulch
H	222m E	Marron View Cinder Hill WORKINGTON Cumbria CA14 1YU	EPR/DF0131A V/A001	Using waste exemption	Non- Agricultural Waste Only	Use of waste in construction
H	223m E	MARRON VIEW, CINDER HILL, LITTLE CLIFTON, WORKINGTON, CA14 1YU	WEX365937	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
H	223m E	Marron View, Cinderbanks, Little Clifton, Workington, CA14 1YU	WEX094021	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
H	223m E	MARRON VIEW, CINDER HILL, LITTLE CLIFTON, WORKINGTON, CA14 1YU	WEX239081	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
G	224m NE	Punderland Farm WORKINGTON Cumbria CA14 1YX	EPR/UE5080C E/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
G	224m NE	Punderland Farm WORKINGTON Cumbria CA14 1YX	EPR/UE5080C E/A001	Treating waste exemption	Agricultural Waste Only	Cleaning, washing, spraying or coating relevant waste



ID	Location	Site	Reference	Category	Sub-Category	Description
G	224m NE	Punderland Farm WORKINGTON Cumbria CA14 1YX	EPR/UE5080C E/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
G	224m NE	Punderland Farm WORKINGTON Cumbria CA14 1YX	EPR/UE5080C E/A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil
G	224m NE	Punderland Farm WORKINGTON Cumbria CA14 1YX	EPR/UE5080C E/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
G	224m NE	Punderland Farm WORKINGTON Cumbria CA14 1YX	EPR/UE5080C E/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
G	224m NE	Punderland Farm WORKINGTON Cumbria CA14 1YX	EPR/UE5080C E/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
I	261m N	brow top kennels, a595 little clifton, little clifton workington, ca141xs	WEX180379	Using waste exemption	Not on a farm	Use of waste in construction
I	291m N	-	WEX290993	Using waste exemption	Not on a farm	Use of waste in construction
I	291m N	-	WEX290993	Using waste exemption	Not on a farm	Use of waste for a specified purpose
I	291m N	-	WEX290993	Disposing of waste exemption	Not on a farm	Burning waste in the open
I	291m N	-	WEX290993	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit
I	291m N	-	WEX290993	Treating waste exemption	Not on a farm	Sorting mixed waste
3	342m SW	-	WEX330488	Using waste exemption	Not on a farm	Use of waste in construction
J	384m E	Oldfield Farm Greysouthen CA13 0UW	EPR/SE5852Q D/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
J	384m E	Oldfield Farm Greysouthen CA13 0UW	EPR/SE5852Q D/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
J	384m E	Oldfield Farm Greysouthen CA13 0UW	EPR/SE5852Q D/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Cleaning, washing, spraying or coating relevant waste
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Aerobic composting and associated prior treatment
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open



ID	Location	Site	Reference	Category	Sub-Category	Description
K	385m S	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on agricultural land to confer benefit
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Storing waste exemption	On a farm	Storage of waste in a secure place
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Storing waste exemption	On a farm	Storage of waste in secure containers
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of waste for a specified purpose
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of sludge for the purposes of re-seeding a waste water treatment plant
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of waste in construction
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Disposing of waste exemption	On a farm	Burning waste in the open
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Disposing of waste exemption	On a farm	Disposal by incineration
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of depolluted end-of-life vehicles for vehicle parts
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of mulch



ID	Location	Site	Reference	Category	Sub-Category	Description
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Storing waste exemption	On a farm	Storage of waste in a secure place
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of waste in construction
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Storing waste exemption	On a farm	Storage of waste in secure containers
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of sludge for the purposes of re-seeding a waste water treatment plant
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of waste for a specified purpose
L	460m S	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
L	460m S	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
L	460m S	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Use of waste in construction
L	460m S	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
L	460m S	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance

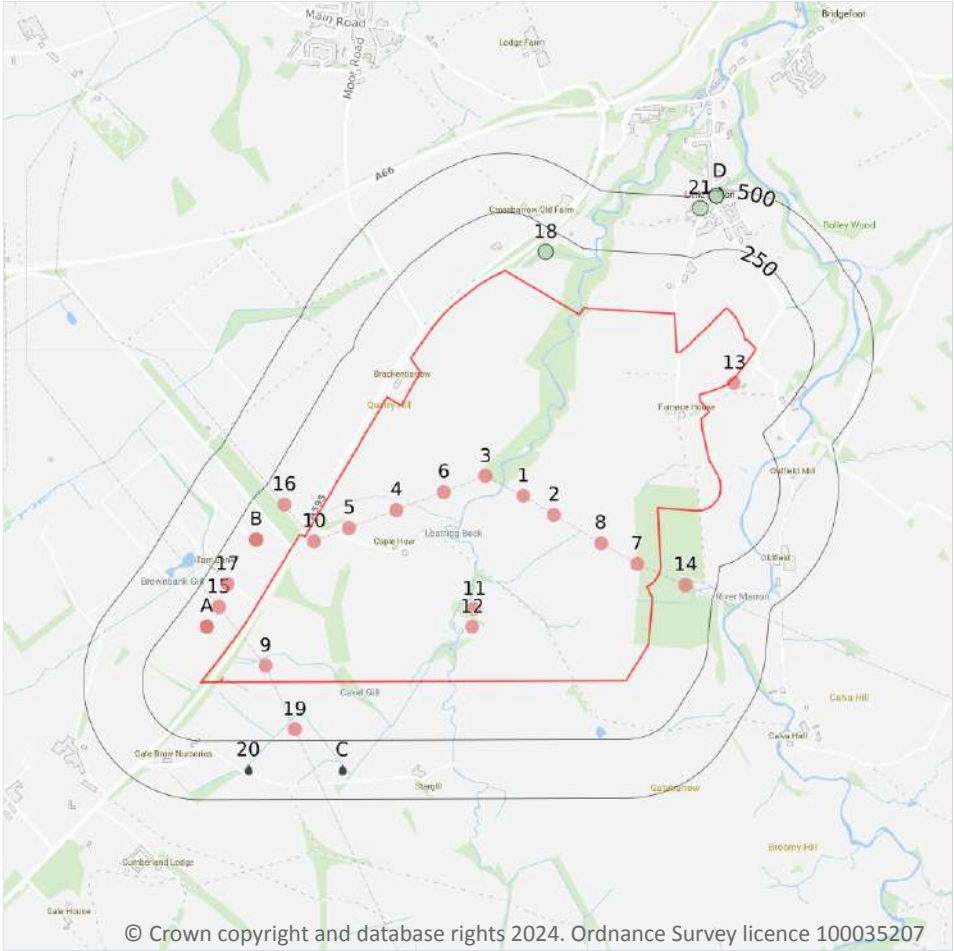


ID	Location	Site	Reference	Category	Sub-Category	Description
L	460m S	STARGILL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Use of waste for a specified purpose
L	460m S	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of mulch
L	460m S	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX172072	Disposing of waste exemption	On a farm	Burning waste in the open
L	460m S	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX172072	Disposing of waste exemption	On a farm	Disposal by incineration
L	460m S	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of depolluted end-of-life vehicles for vehicle parts
L	460m S	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
L	460m S	STARGILL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX012007	Disposing of waste exemption	On a farm	Disposal by incineration
L	460m S	STARGILL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX012007	Disposing of waste exemption	On a farm	Burning waste in the open
L	460m S	STARGILL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

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
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m 22

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 37 >](#)

ID	Location	Company	Address	Activity	Category
1	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
2	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
3	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
5	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
6	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
7	On site	Pylon	Cumbria, CA13	Electrical Features	Infrastructure and Facilities
8	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
9	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
10	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
11	On site	Rifle Range (Disused)	Cumbria, CA14	Shooting Facilities	Sports Complex
12	On site	Butts	Cumbria, CA14	Shooting Facilities	Sports Complex
13	15m NE	Works	Cumbria, CA14	Unspecified Works Or Factories	Industrial Features
14	123m SE	Pylon	Cumbria, CA13	Electrical Features	Infrastructure and Facilities
A	126m SW	High Mains	East Town End, -, Winscales, Workington, Cumbria, CA14 4JG	Energy Production	Industrial Features
A	126m SW	High Mains Turbine	Cumbria, CA14	Energy Production	Industrial Features
15	134m W	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
16	144m W	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
B	148m W	Tarn Bank	-, -, Winscales, Workington, Cumbria, CA14	Energy Production	Industrial Features
B	148m W	Tarn Bank Turbine	Cumbria, CA14	Energy Production	Industrial Features
17	153m W	Winscales Turbine	Cumbria, CA14	Energy Production	Industrial Features
19	202m SW	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities



This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.



4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

5

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 37](#) >

ID	Location	Address	Details	
20	374m SW	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590114 Permit Version: 1 Receiving Water: CAVEL GILL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 01/03/1991
C	376m SW	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590115 Permit Version: 1 Receiving Water: CAVEL GILL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 30/09/1983
C	376m SW	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590115 Permit Version: 2 Receiving Water: CAVEL GILL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/10/1983 Revocation Date: 01/03/1991
D	496m NE	GLEN HOUSE CSO, GLEN HOUSE, GAYTHORNE TERRACE, LITTLE CLIFTON, CA14 1YW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ALL0016 Permit Version: 3 Receiving Water: UNNAMED TRIB OF RIVER MARRON	Status: VARIED UNDER EPR 2010 Issue date: 05/02/2016 Effective Date: 05/02/2016 Revocation Date: 05/08/2018



ID	Location	Address	Details	
D	496m NE	GLEN HOUSE CSO, GLEN HOUSE, GAYTHORNE TERRACE, LITTLE CLIFTON, CA14 1YW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ALL0016 Permit Version: 4 Receiving Water: UNNAMED TRIB OF RIVER MARRON	Status: VARIED UNDER EPR 2010 Issue date: 06/08/2018 Effective Date: 06/08/2018 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

4

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 37 >](#)

ID	Location	Details	
18	155m N	Incident Date: 24/08/2003 Incident Identification: 184669 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
21	438m NE	Incident Date: 25/09/2002 Incident Identification: 110486 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	477m NE	Incident Date: 10/01/2002 Incident Identification: 51584 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	477m NE	Incident Date: 31/01/2002 Incident Identification: 55668 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) 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

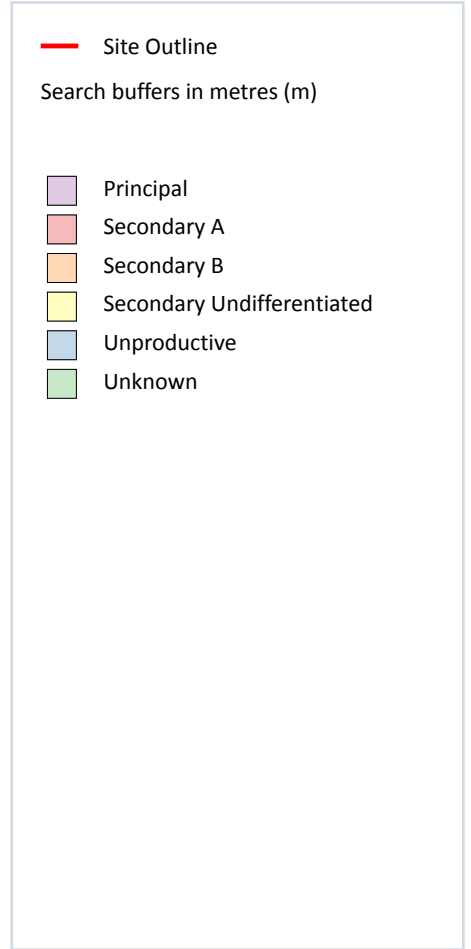
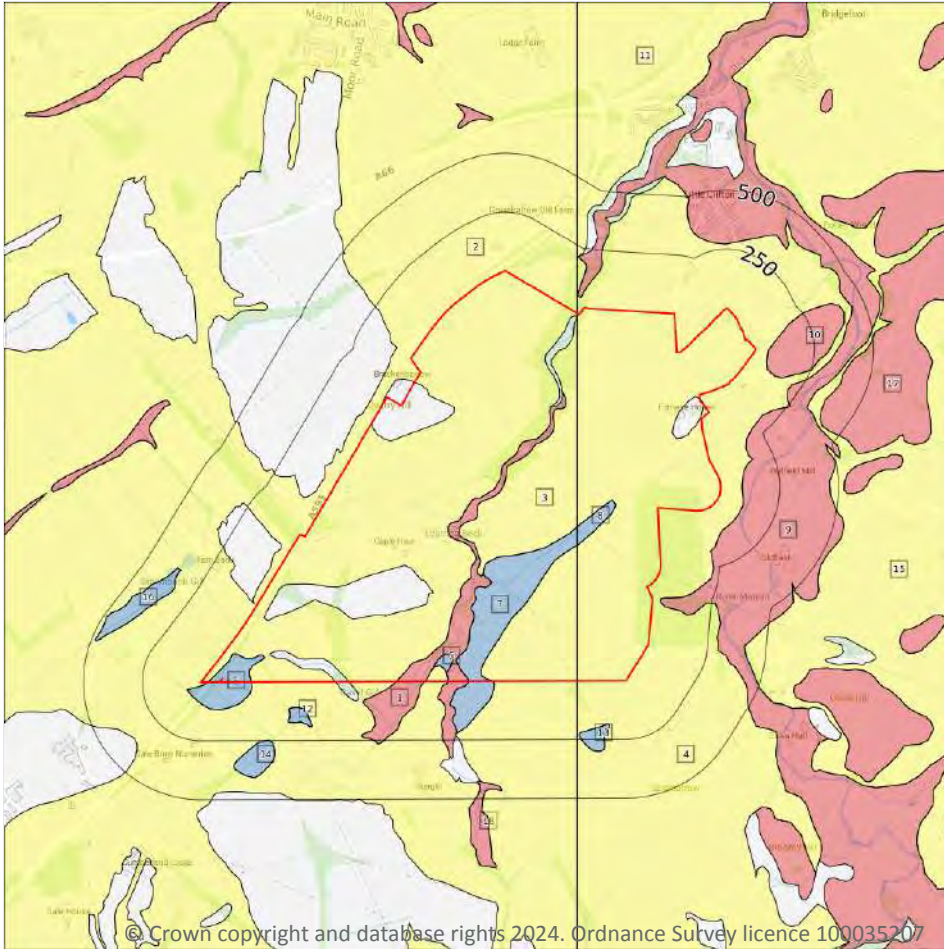
0

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

18

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 45 >](#)

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 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	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
4	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
5	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
6	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
7	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
8	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
9	31m SE	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
10	53m NE	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
11	60m 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
12	108m SW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
13	185m SE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
14	248m SW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
15	312m E	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
16	332m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
17	364m 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

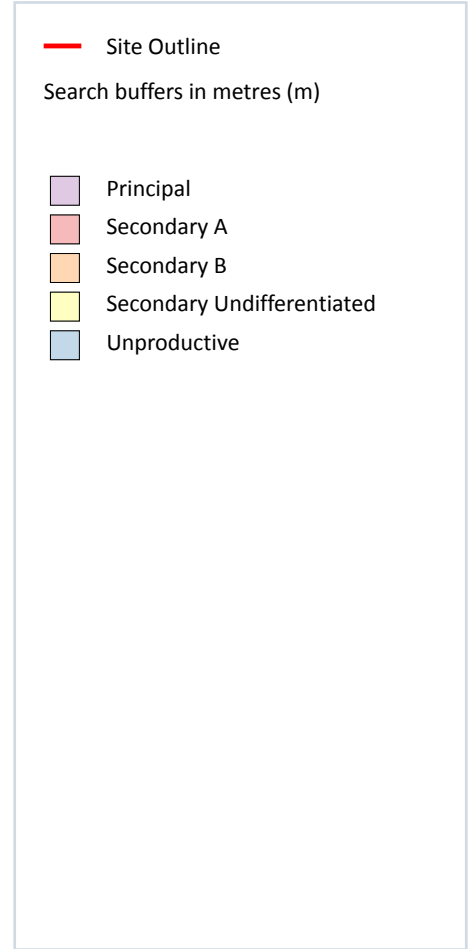
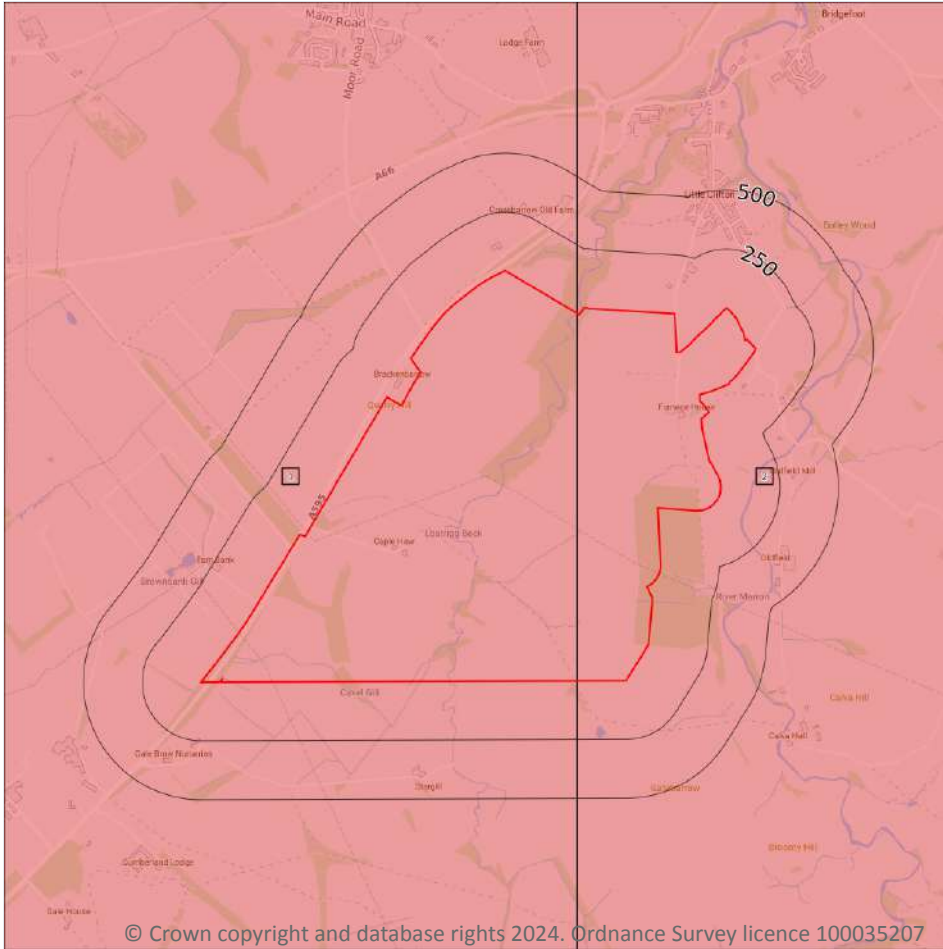


ID	Location	Designation	Description
18	424m S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



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 48](#) >

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.



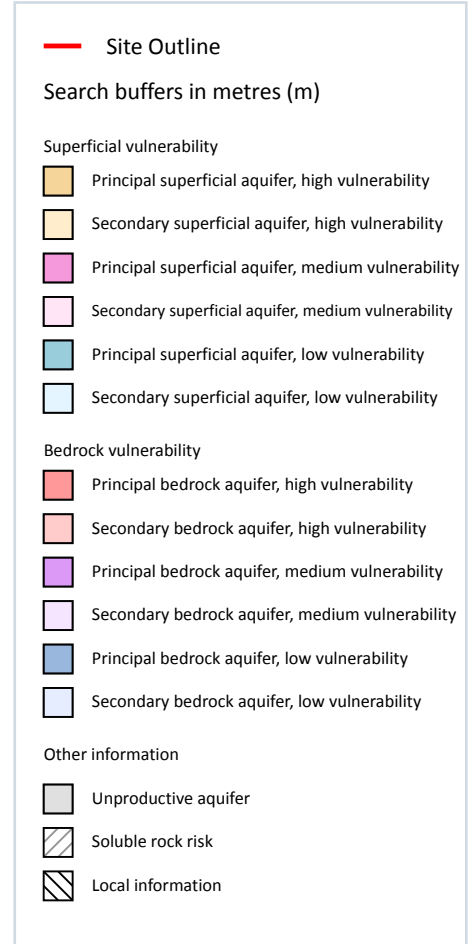
Contact us with any questions at:

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Date: 23 April 2024

Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

37

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 50 >](#)



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: >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 - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >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
3	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: >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
4	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: >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
5	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: >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
6	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: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	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: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
8	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: >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
9	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: >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
10	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: >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
11	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: >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
12	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: >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



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
13	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: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
14	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: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
15	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: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
16	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
17	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
18	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
19	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
20	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
21	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
22	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
23	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
24	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
25	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
26	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
27	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
28	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
29	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
30	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
31	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
32	15m W	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
33	31m SE	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >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
34	44m N	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
35	49m SE	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >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
36	49m W	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
37	49m W	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: <90% Recharge potential: Low	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.



ID	Location	Details	
-	1680m NW	Status: Active Licence No: NW/075/0015/001 Details: Pollution Remediation Direct Source: Ground Water - North West Region Point: TWO PIPES AT GREAT CLIFTON Data Type: Point Name: THE COAL AUTHORITY Easting: 303620 Northing: 529740	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/003222 Original Start Date: 20/05/2010 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 20/05/2010 Version End Date: -
-	1942m SW	Status: Active Licence No: NW/074/0001/002 Details: Laundry Use Direct Source: Ground Water - North West Region Point: BOREHOLE - LOWER COAL MEASURES - JOSEPH NOBLE ROAD Data Type: Point Name: Shortridge Ltd Easting: 302221 Northing: 525130	Annual Volume (m ³): 60000 Max Daily Volume (m ³): 300 Original Application No: NPS/WR/015770 Original Start Date: 04/09/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 04/09/2018 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

0

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

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

5.8 Potable abstractions

Records within 2000m

0

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

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



5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

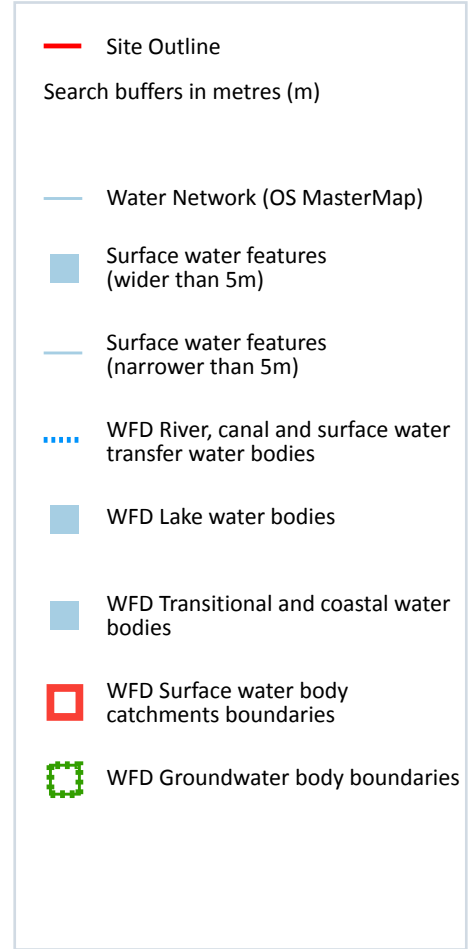
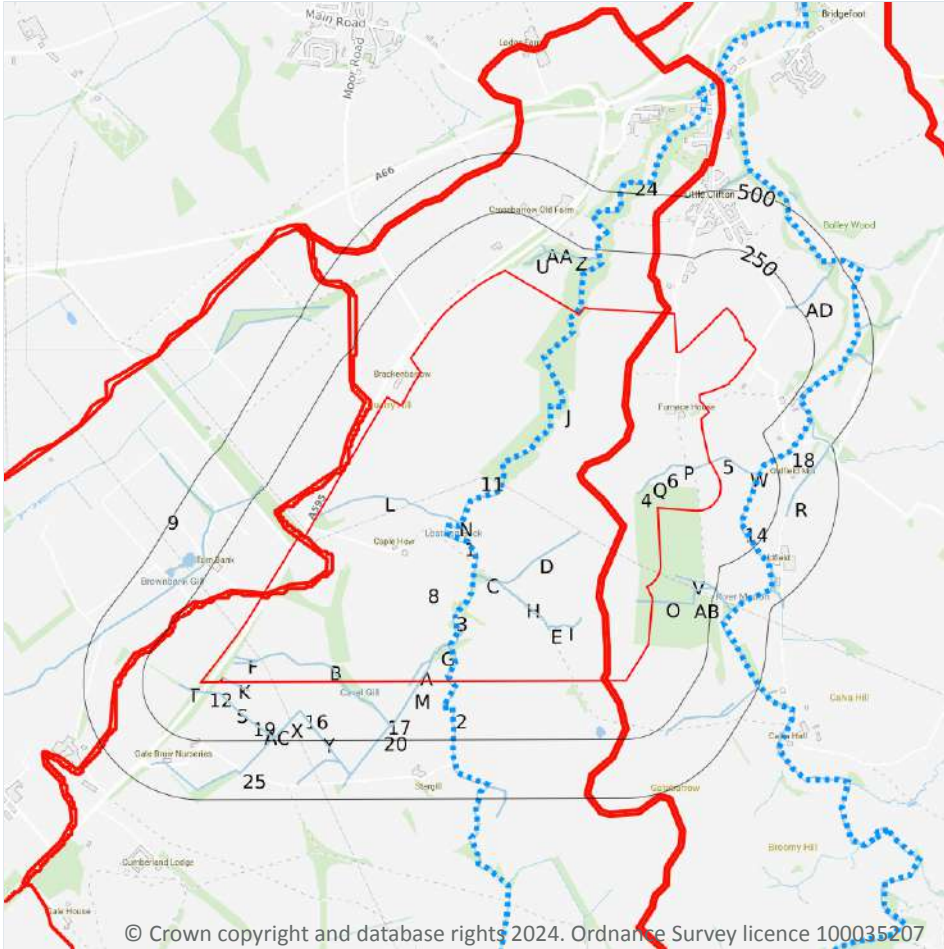
0

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

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



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m **63**

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 61](#) >

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

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
4	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
6	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Swinsty Gill
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Swinsty Gill



ID	Location	Type of water feature	Ground level	Permanence	Name
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Swinsty Gill
N	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Swinsty Gill
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	42m SW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
S	48m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	51m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	65m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	71m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	98m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	122m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
14	125m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marron



ID	Location	Type of water feature	Ground level	Permanence	Name
16	134m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
17	134m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
Y	137m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	157m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	157m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
18	164m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marron
19	164m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AB	166m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AB	167m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	167m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	171m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	172m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	172m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AB	176m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
20	188m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	197m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AB	206m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AD	210m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	211m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	212m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
24	215m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
AB	230m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
25	237m SW	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

20

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 61](#) >



This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

3

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 61 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
8	On site	River	Lostrigg Beck	GB112075070550	Derwent	Derwent North West
9	On site	Coastal Catchment	Not part of a river WB catchment	356	Ehen-Calder	South West Lakes
R	On site	River	Marron	GB112075070540	Derwent	Derwent North West

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

6.4 WFD Surface water bodies

Records identified

2

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

Features are displayed on the Hydrology map on [page 61 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
10	On site	River	Lostrigg Beck	GB112075070550 ↗	Moderate	Fail	Moderate	2019
15	126m E	River	Marron	GB112075070540 ↗	Moderate	Fail	Good	2019

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



6.5 WFD Groundwater bodies

Records on site	1
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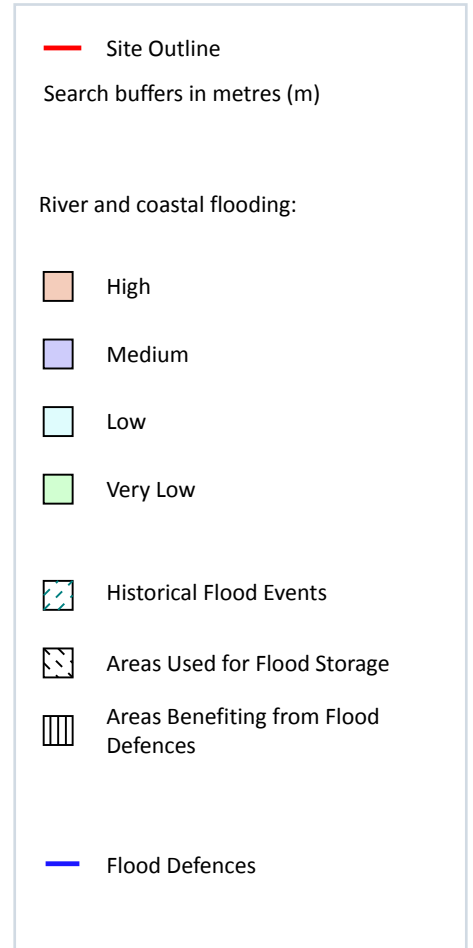
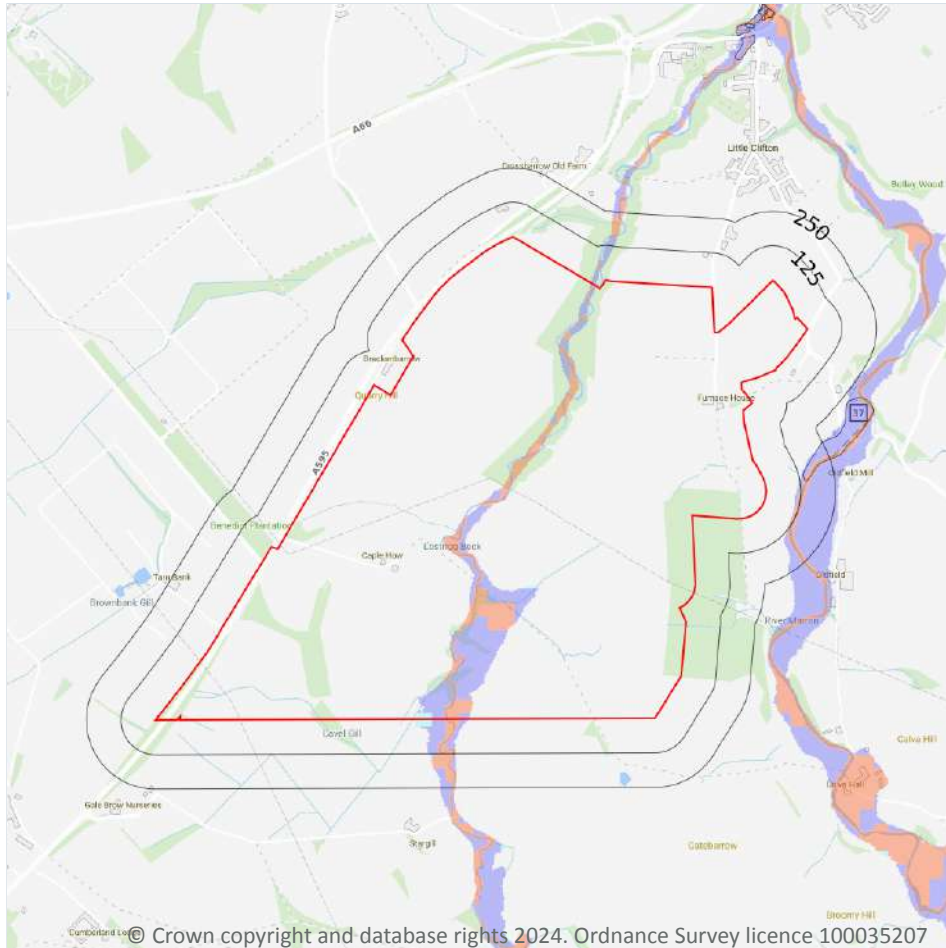
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on [page 61 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
11	On site	Derwent and West Cumbria Lower Palaeozoic and Carboniferous Aquifers	GB41202G103700 ↗	Poor	Poor	Good	2019

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

7 River and coastal flooding



7.1 Risk of flooding from rivers and the sea

Records within 50m

51

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

Features are displayed on the River and coastal flooding map on [page 69](#) >

Distance	Flood risk category
On site	High
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	1
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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.

Features are displayed on the River and coastal flooding map on [page 69 >](#)

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
37	140m E	Little Clifton 11_10_2005	2005-10-11 2005-10-11	Main river	Channel capacity exceeded (no raised defences)	Fluvial

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

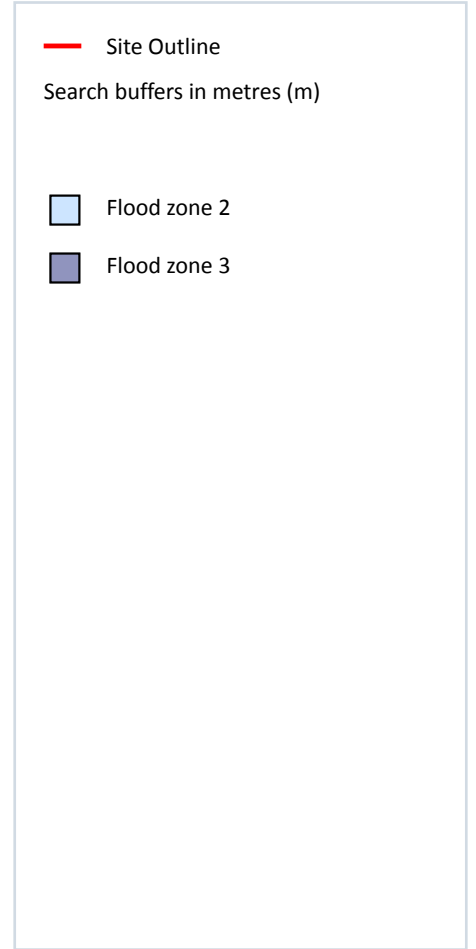
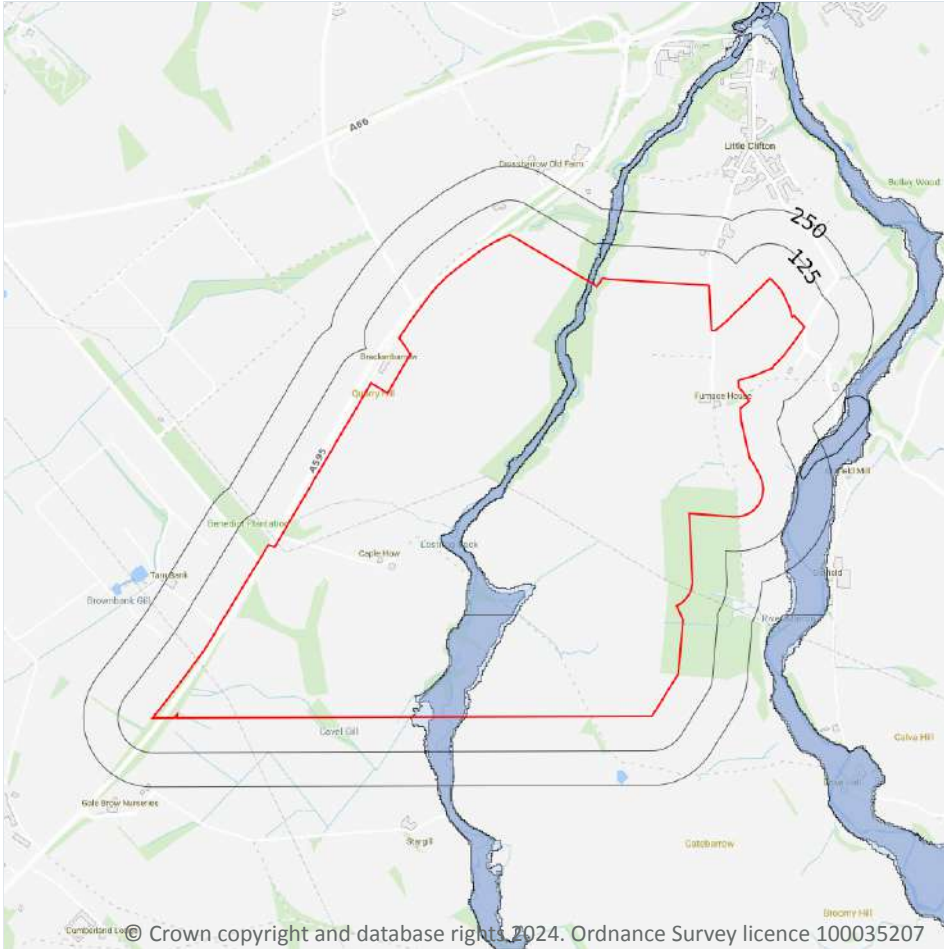
0

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

1

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.

Features are displayed on the River and coastal flooding map on [page 69](#) >

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m

1

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.

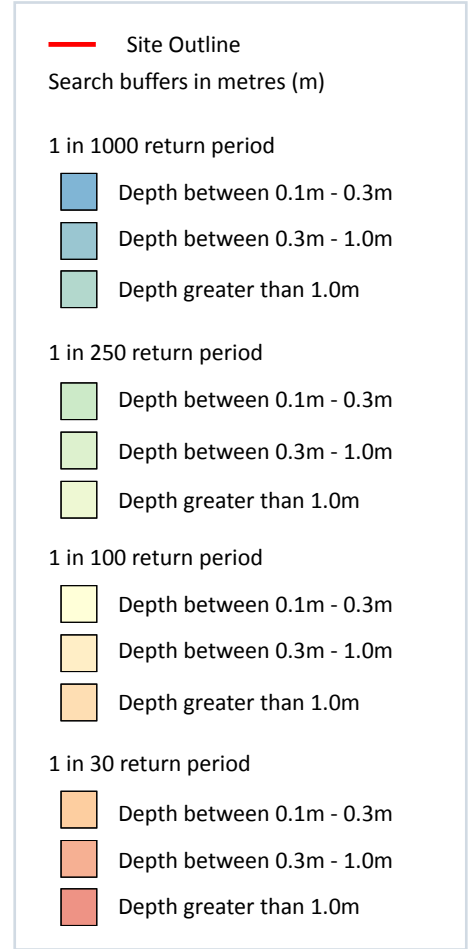
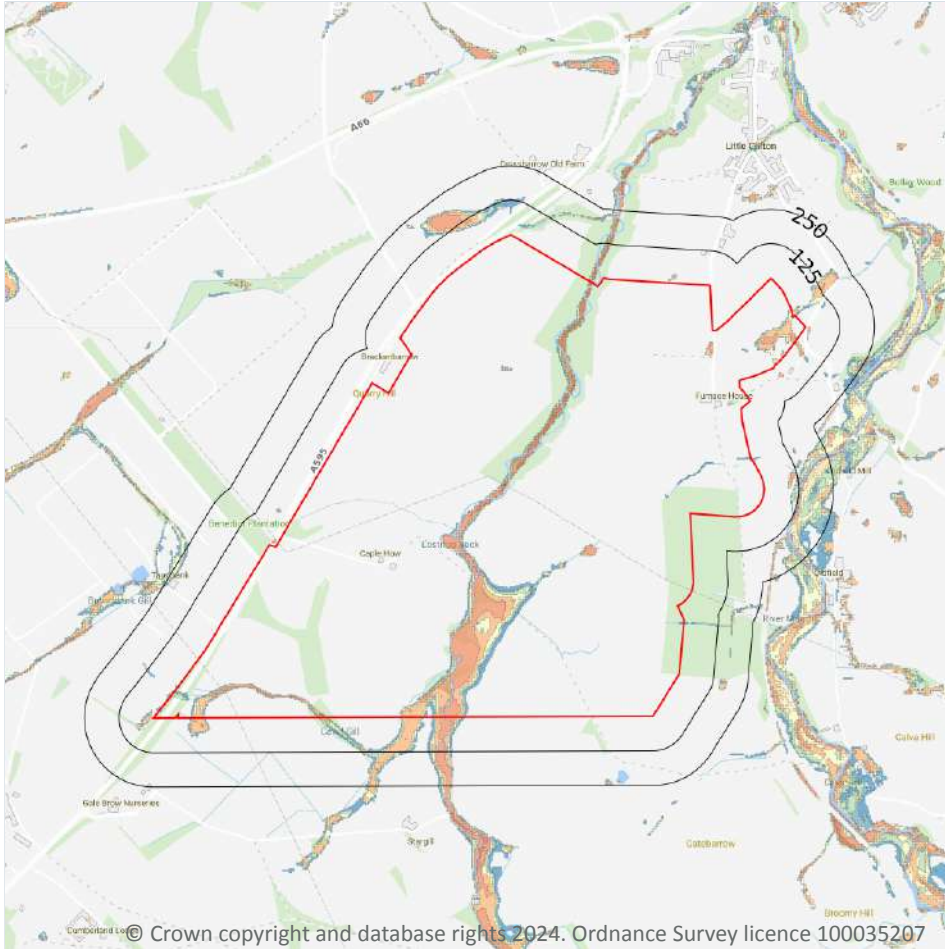
Features are displayed on the River and coastal flooding map on [page 69](#) >

Location	Type
On site	Zone 3 - (Fluvial Models)

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, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 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 74 >](#)

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.

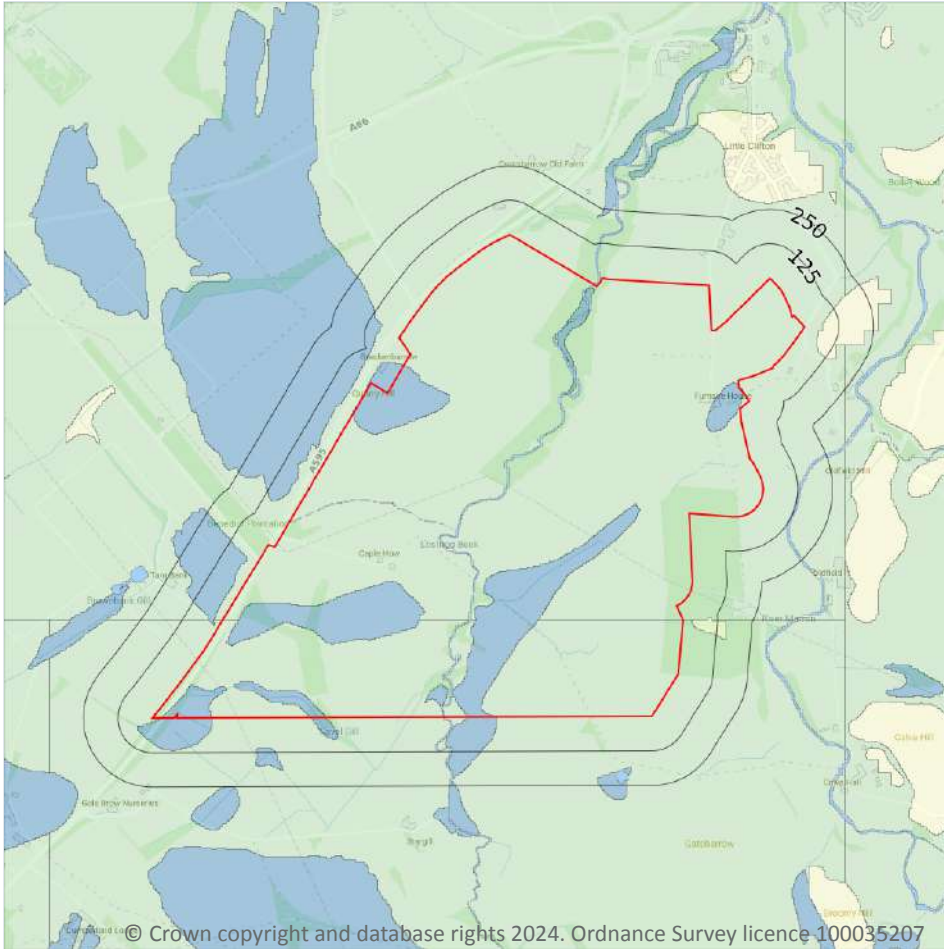
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

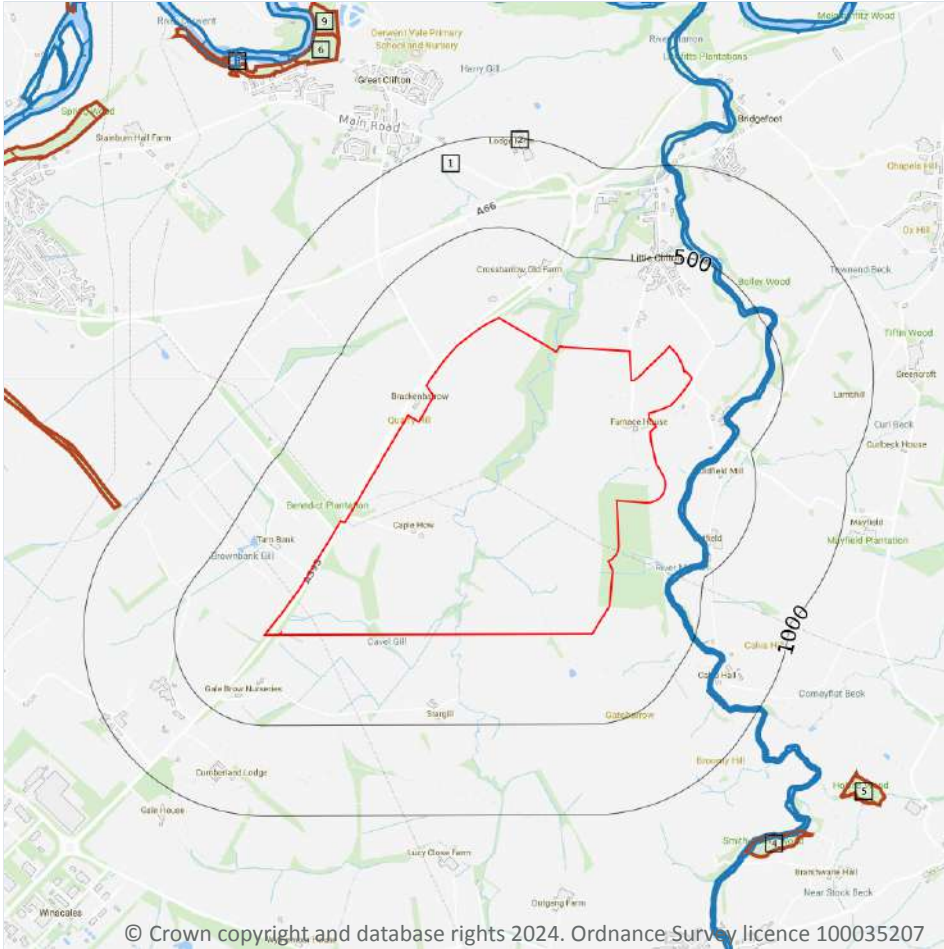
Highest risk on site	Low
Highest risk within 50m	Moderate

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 76 >](#)

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Special Areas of Conservation (SAC)
- / Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

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

Features are displayed on the Environmental designations map on [page 77](#) >

ID	Location	Name	Data source
1	111m E	River Derwent and Tributaries	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

1

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.

Features are displayed on the Environmental designations map on [page 77 >](#)

ID	Location	Name	Features of interest	Habitat description	Data source
2	111m E	River Derwent & Bassenthwaite Lake	Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; Rivers with floating vegetation often dominated by water-crowfoot; Mixed woodland on base-rich soils associated with rocky slopes; Western acidic oak woodland; Sea lamprey; Brook lamprey; River lamprey; Atlantic salmon; Bullhead; Freshwater pearl mussel; Marsh fritillary butterfly; Otter; Floating water-plantain.	Inland water bodies (Standing water, Running water); Broad-leaved deciduous woodland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

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

7

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

Features are displayed on the Environmental designations map on [page 77 >](#)

ID	Location	Name	Woodland Type
3	1073m W	High Wood	Ancient Replanted Woodland
4	1453m SE	Unknown	Ancient & Semi-Natural Woodland
5	1641m SE	Hollins Wood	Ancient & Semi-Natural Woodland
6	1679m N	Unknown	Ancient Replanted Woodland



ID	Location	Name	Woodland Type
-	1745m N	Unknown	Ancient & Semi-Natural Woodland
8	1769m NW	Unknown	Ancient & Semi-Natural Woodland
9	1770m N	Unknown	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

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

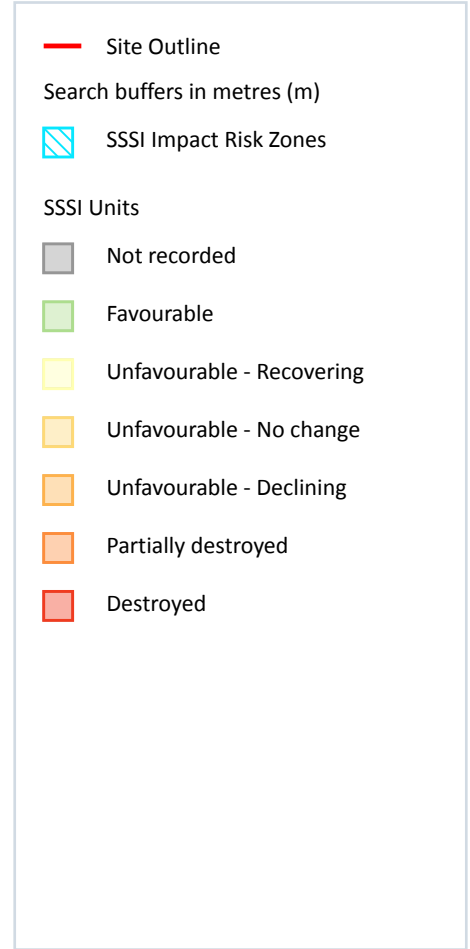
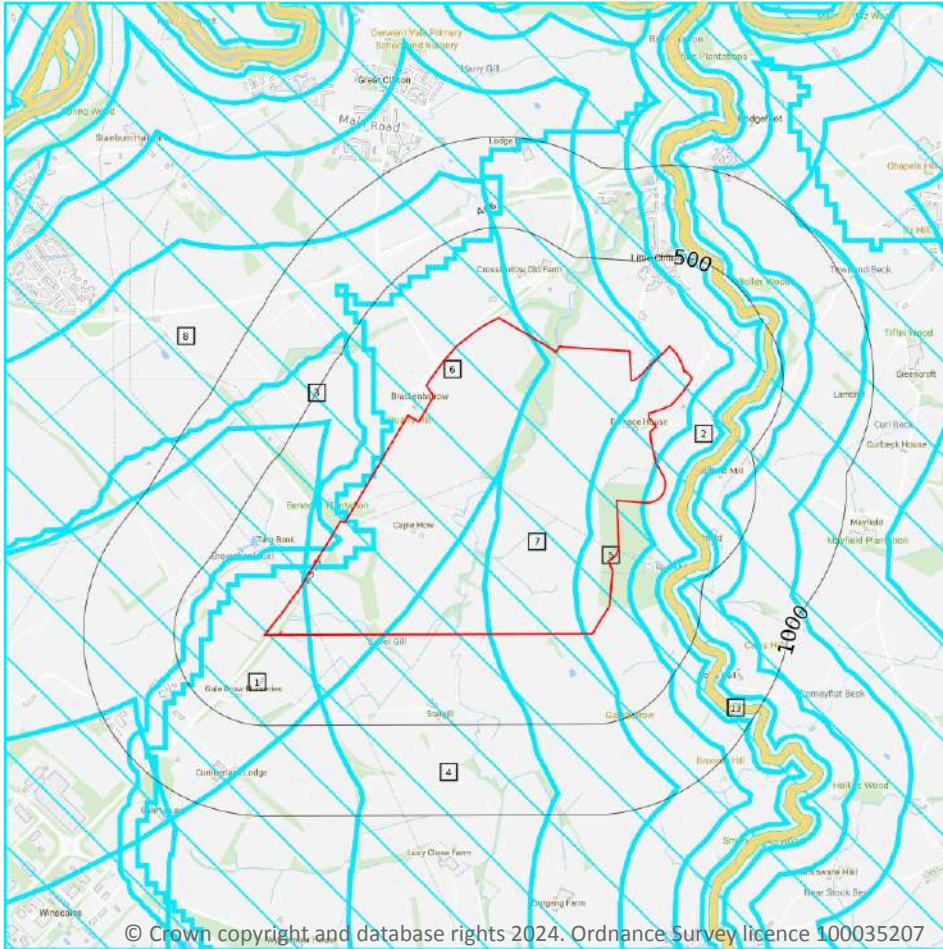
0

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

8

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 83](#) >

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>
2	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any development that could cause AIR POLLUTION or DUST either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).</p> <p>Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.</p> <p>Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>



ID	Location	Type of developments requiring consultation
3	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p>
4	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>



ID	Location	Type of developments requiring consultation
5	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any development that could cause AIR POLLUTION (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).</p> <p>Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.</p> <p>Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England’s Nutrient Neutrality advice.</p>

ID	Location	Type of developments requiring consultation
6	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>

ID	Location	Type of developments requiring consultation
7	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>

ID	Location	Type of developments requiring consultation
8	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

2

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

Features are displayed on the SSSI Impact Zones and Units map on [page 83](#) >

ID: 13
 Location: 111m E
 SSSI name: River Derwent and Tributaries
 Unit name: River Marron
 Broad habitat: Rivers And Streams
 Condition: Unfavourable - No change
 Reportable features:



Feature name	Feature condition	Date of assessment
Atlantic salmon, <i>Salmo salar</i>	Unfavourable - No change	24/03/2023
Brook lamprey, <i>Lampetra planeri</i>	Unfavourable - No change	24/03/2023
H3260 Water courses of plain to montane levels with <i>R. fluitantis</i>	Unfavourable - No change	24/03/2023
Otter, <i>Lutra lutra</i>	Unfavourable - Recovering	24/12/2010
River lamprey, <i>Lampetra fluviatilis</i>	Unfavourable - No change	24/03/2023
River supporting habitat	Unfavourable - Recovering	24/12/2010
Rivers and Streams	Unfavourable - No change	24/03/2023
S1095 Sea lamprey, <i>Petromyzon marinus</i>	Unfavourable - No change	24/03/2023
S1096 Brook lamprey, <i>Lampetra planeri</i>	Unfavourable - No change	24/03/2023
S1099 River lamprey, <i>Lampetra fluviatilis</i>	Unfavourable - No change	24/03/2023
S1106 Atlantic salmon, <i>Salmo salar</i>	Unfavourable - No change	24/03/2023
S1355 Otter, <i>Lutra lutra</i>	Unfavourable - Recovering	24/12/2010
Sea lamprey, <i>Petromyzon marinus</i>	Unfavourable - No change	24/03/2023

ID: 32
Location: 1747m N
SSSI name: River Derwent and Tributaries
Unit name: River Derwent: Cockermouth To Workington
Broad habitat: Rivers And Streams
Condition: Unfavourable - No change
Reportable features:

Feature name	Feature condition	Date of assessment
Atlantic salmon, <i>Salmo salar</i>	Unfavourable - No change	24/03/2023
Brook lamprey, <i>Lampetra planeri</i>	Unfavourable - No change	24/03/2023
H3260 Water courses of plain to montane levels with <i>R. fluitantis</i>	Unfavourable - No change	24/03/2023
Otter, <i>Lutra lutra</i>	Unfavourable - Recovering	07/03/2013
River lamprey, <i>Lampetra fluviatilis</i>	Unfavourable - No change	24/03/2023
River supporting habitat	Unfavourable - Recovering	07/03/2013
Rivers and Streams	Unfavourable - No change	24/03/2023
S1095 Sea lamprey, <i>Petromyzon marinus</i>	Unfavourable - No change	24/03/2023

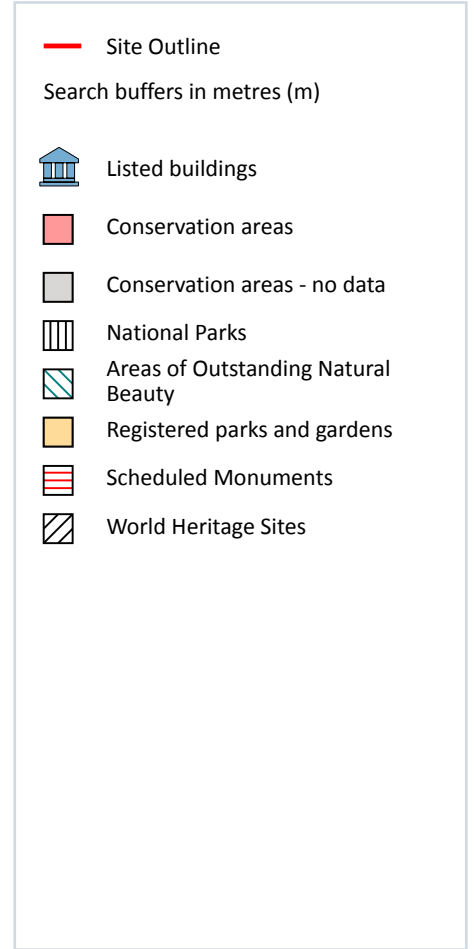
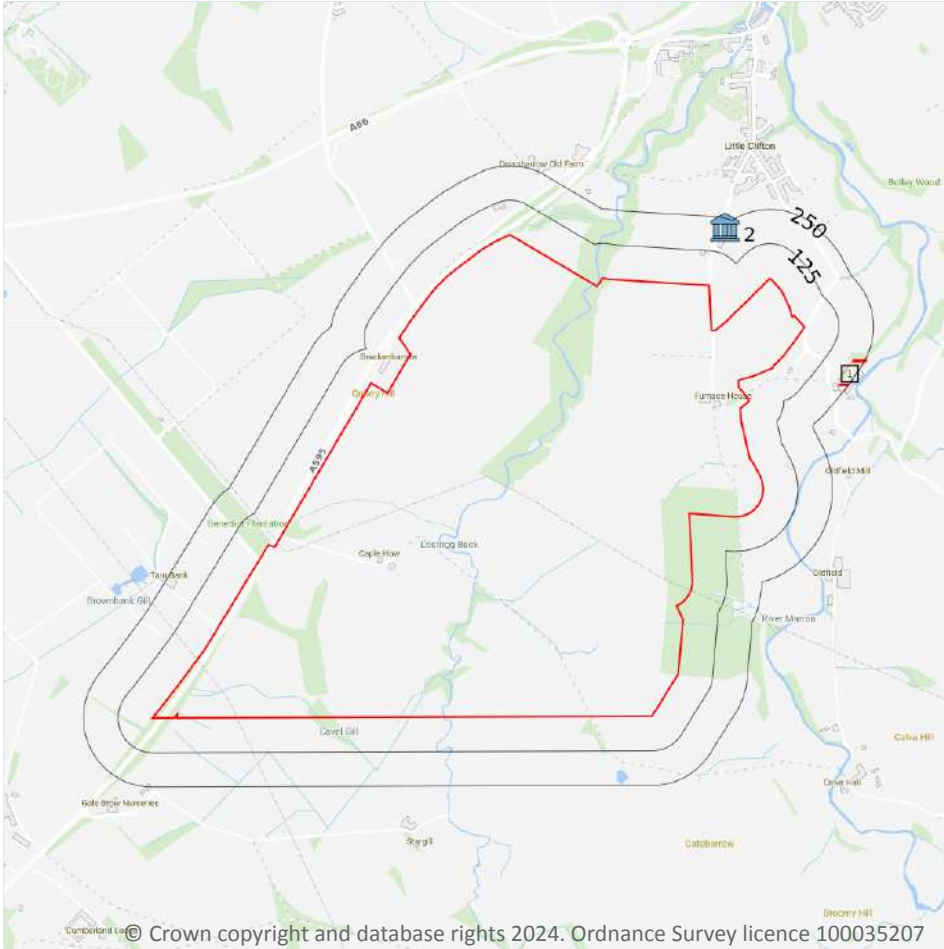


Feature name	Feature condition	Date of assessment
S1096 Brook lamprey, <i>Lampetra planeri</i>	Unfavourable - No change	24/03/2023
S1099 River lamprey, <i>Lampetra fluviatilis</i>	Unfavourable - No change	24/03/2023
S1106 Atlantic salmon, <i>Salmo salar</i>	Unfavourable - No change	24/03/2023
S1355 Otter, <i>Lutra lutra</i>	Unfavourable - Recovering	07/03/2013
Sea lamprey, <i>Petromyzon marinus</i>	Unfavourable - No change	24/03/2023

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 92 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
2	220m NE	Plunderland Farmhouse And Adjoining Barn	II	1327184	13/12/1985

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



11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

1

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.

Features are displayed on the Visual and cultural designations map on [page 92 >](#)

ID	Location	Ancient monument name	Reference number
1	211m E	Little Clifton open heap coke producing bases and associated slag heap, 220m north of Oldfield Bridge	1018072

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

11.7 Registered Parks and Gardens

Records within 250m

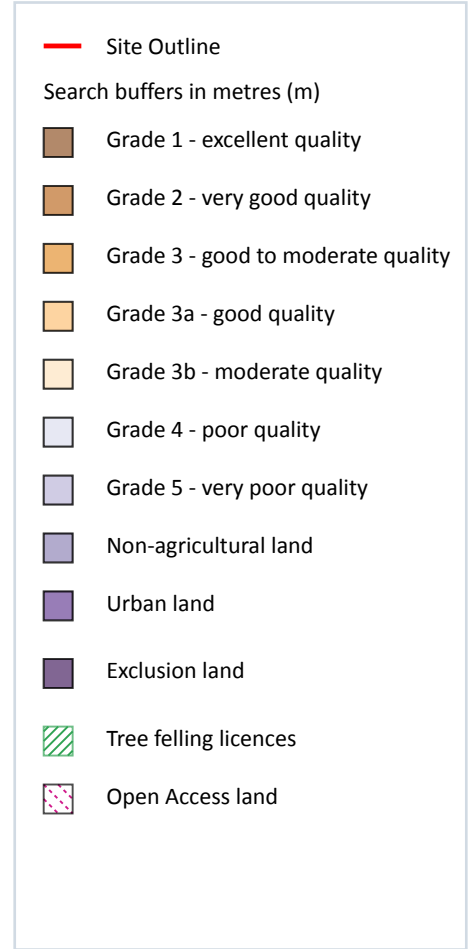
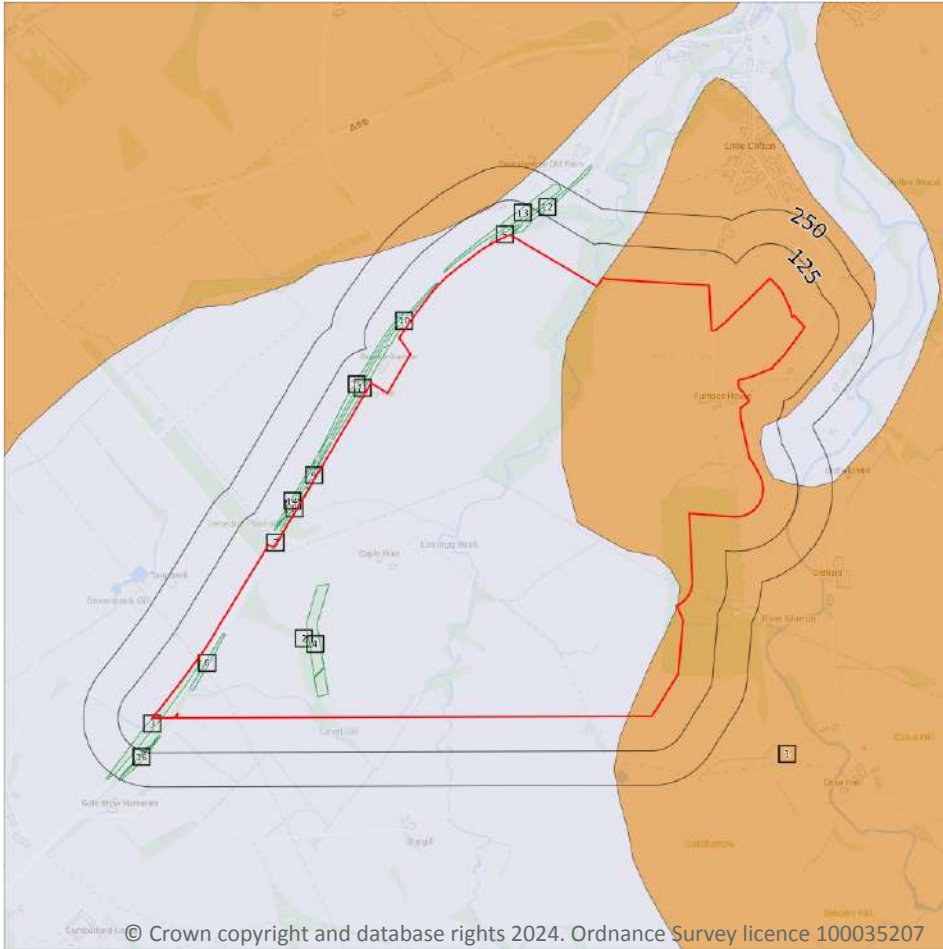
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on [page 95](#) >

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

ID	Location	Classification	Description
2	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

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

14

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.

Features are displayed on the Agricultural designations map on [page 95 >](#)

ID	Location	Description	Reference	Application date
3	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
4	On site	Selective Fell/Thin (Unconditional)	010/75/01-02	04/02/2002
5	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
6	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
7	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
8	3m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
9	3m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
10	6m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
11	10m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
12	13m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-



ID	Location	Description	Reference	Application date
13	17m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
14	23m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
15	31m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
16	64m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	12
----------------------------	-----------

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

Location	Reference	Scheme	Start Date	End date
On site	AG00299330	Entry Level plus Higher Level Stewardship	01/01/2010	31/12/2023
On site	AG00496304	Entry Level plus Higher Level Stewardship	01/10/2013	30/09/2023
On site	AG00496304	Entry Level plus Higher Level Stewardship	01/10/2013	30/09/2023
On site	AG00496304	Entry Level plus Higher Level Stewardship	01/10/2013	30/09/2023
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00496304	Entry Level plus Higher Level Stewardship	01/10/2013	30/09/2023
0m NE	AG00496304	Entry Level plus Higher Level Stewardship	01/10/2013	30/09/2023
1m NE	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
9m NE	AG00496304	Entry Level plus Higher Level Stewardship	01/10/2013	30/09/2023
53m NE	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
202m NE	AG00496304	Entry Level plus Higher Level Stewardship	01/10/2013	30/09/2023

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

8

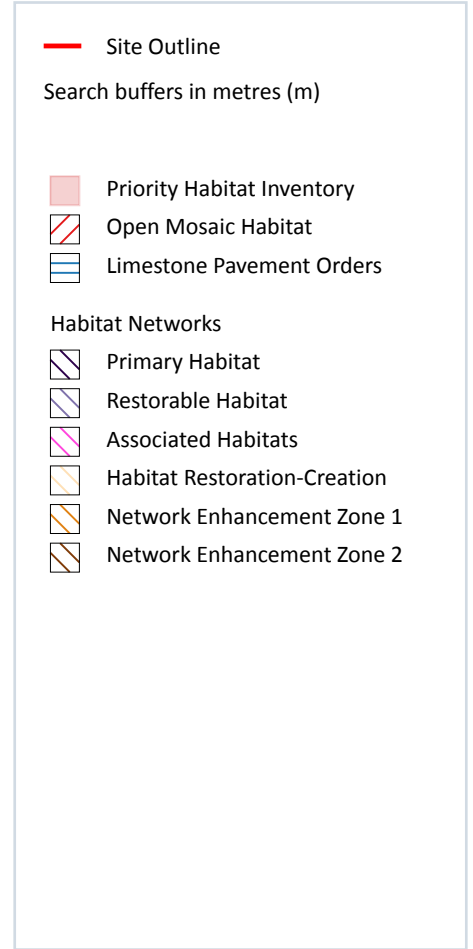
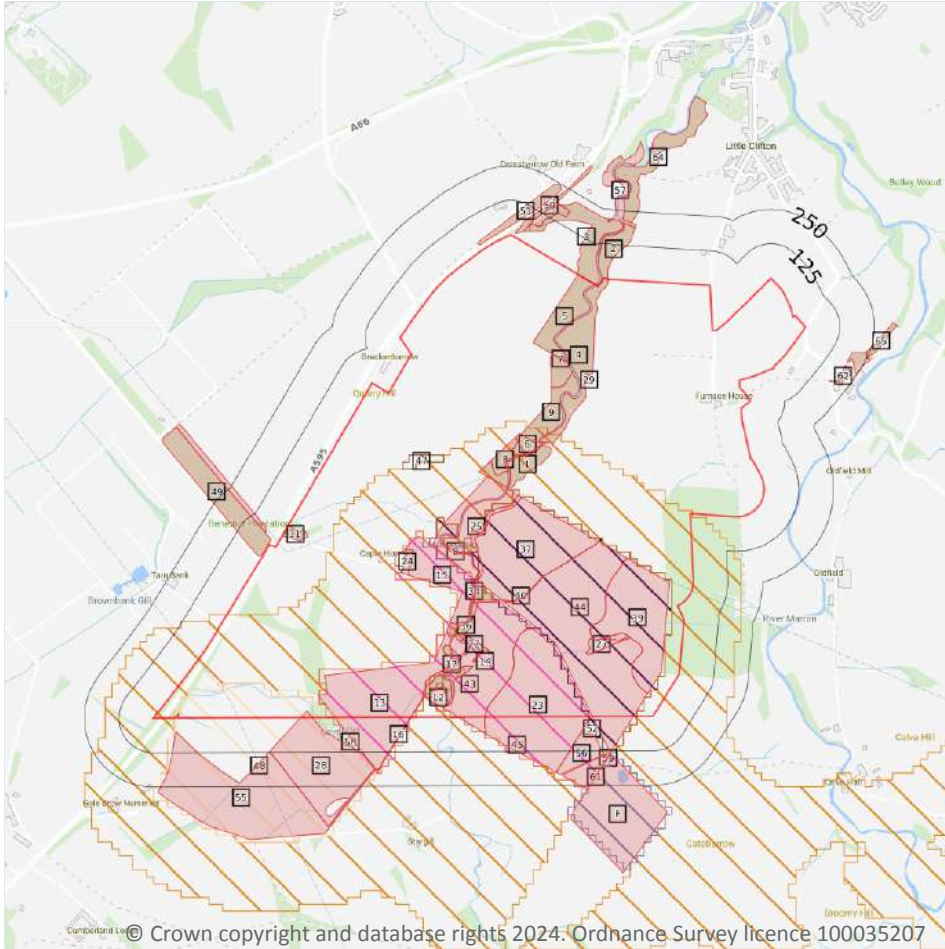
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
On site	1057948	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
On site	1057948	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
On site	1058422	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
On site	1058422	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
On site	1030777	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
On site	1183016	Countryside Stewardship (Higher Tier)	01/01/2022	31/12/2026
27m N	636647	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023
129m E	822876	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024

This data is sourced from Natural England.



13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m

62

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 99](#) >

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

ID	Location	Main Habitat	Other habitats
4	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
5	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
6	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
7	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
8	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
9	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
10	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
11	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%, FEP + HLS)
12	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
13	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
14	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
15	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
16	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
17	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
18	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
19	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
20	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
21	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
22	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)



ID	Location	Main Habitat	Other habitats
23	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
24	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
25	On site	Lowland dry acid grassland	Main habitat: LDAGR (FEP + HLS); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
26	On site	Lowland dry acid grassland	Main habitat: LDAGR (FEP + HLS); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
27	On site	Lowland fens	Main habitat: LFENS (INV > 50%); PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)
28	On site	No main habitat but additional habitats present	Additional: PMGRP (FEP 50%); GQSIG (FEP 50%)
29	On site	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
30	On site	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
31	On site	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
32	On site	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
33	On site	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
34	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
35	On site	No main habitat but additional habitats present	Main habitat: LDAGR (FEP + HLS); Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
36	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
37	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%)
38	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%)
39	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)
40	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)



ID	Location	Main Habitat	Other habitats
41	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)
42	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)
A	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
A	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
B	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
C	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
C	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
D	On site	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
49	4m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
50	12m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
51	20m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
53	37m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
54	45m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
55	49m SW	No main habitat but additional habitats present	Additional: PMGRP (FEP 50%); GQSIG (FEP 50%)
56	59m S	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS)
57	61m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
60	133m SE	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS)
F	133m SE	No main habitat but additional habitats present	Additional: RBEDS (FEP 50%); PMGRP (FEP 50%); GQSIG (FEP 50%)
62	182m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
63	193m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
64	209m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
65	238m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

17

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.

Features are displayed on the Habitat designations map on [page 99 >](#)

ID	Location	Type	Habitat
43	On site	Associated Habitats	Other associated habitats
44	On site	Primary Habitat	Upland fens and flushes
45	On site	Network Enhancement Zone 1	Not specified
46	On site	Network Enhancement Zone 1	Not specified
47	On site	Network Enhancement Zone 2	Not specified
48	On site	Habitat Restoration-Creation	Not specified
A	On site	Network Enhancement Zone 1	Not specified
B	On site	Network Enhancement Zone 1	Not specified
C	On site	Network Enhancement Zone 1	Not specified
D	On site	Network Enhancement Zone 1	Not specified
E	On site	Primary Habitat	Lowland dry acid grassland
E	On site	Restorable Habitat	Not specified
52	30m S	Habitat Restoration-Creation	Not specified
58	77m SW	Network Enhancement Zone 1	Not specified
59	130m S	Habitat Restoration-Creation	Not specified
F	155m S	Restorable Habitat	Not specified
61	180m S	Habitat Restoration-Creation	Not specified

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

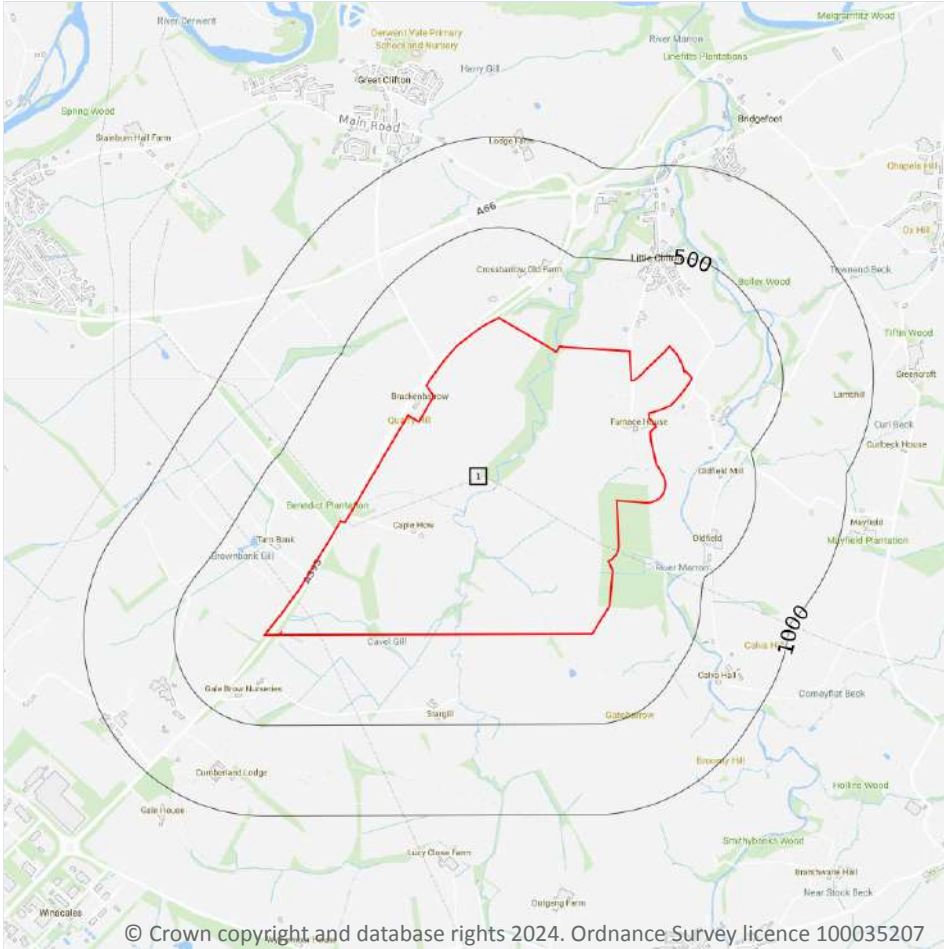
0

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

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14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 105 >](#)

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

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

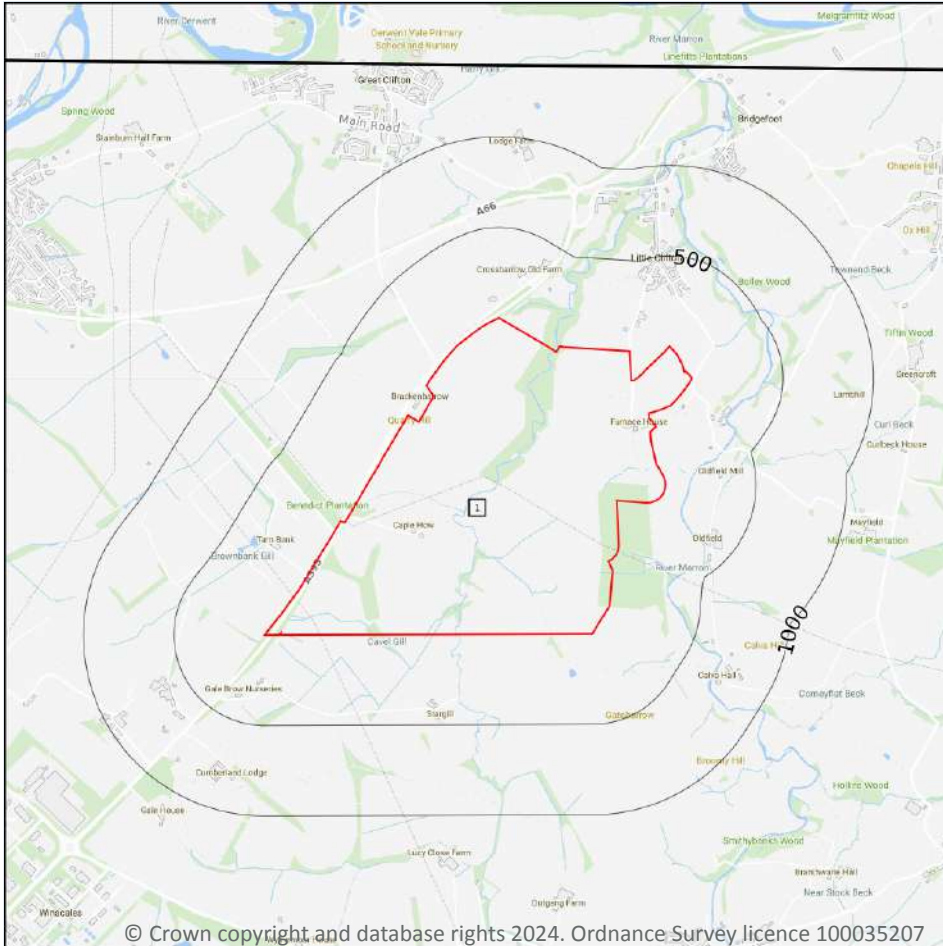
0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

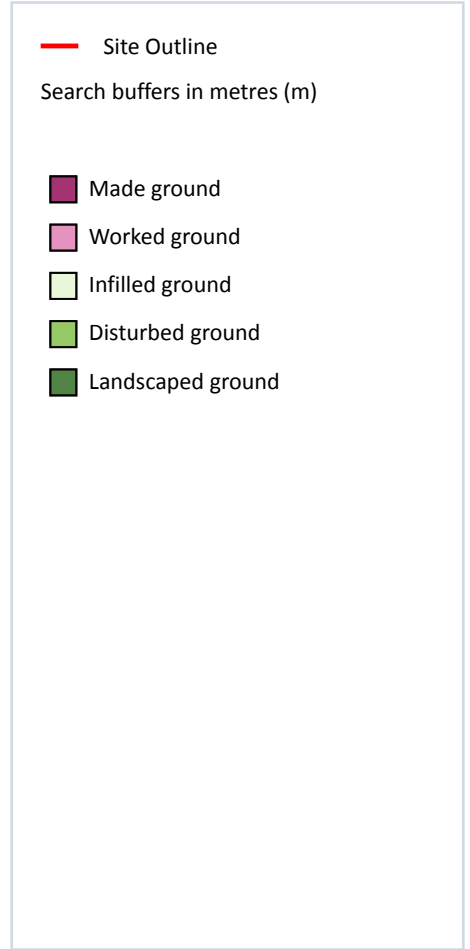
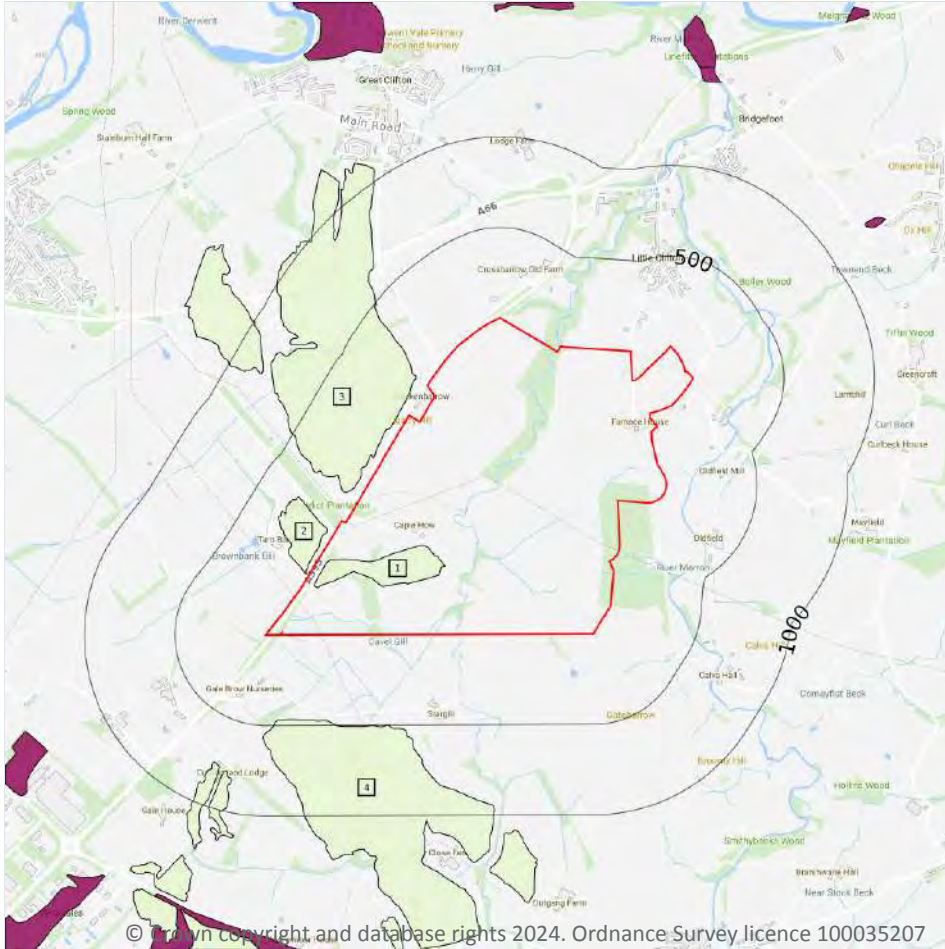
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 109](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW028_whitehaven_v4

This data is sourced from the British Geological Survey.



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



15.2 Artificial and made ground (50k)

Records within 500m

4

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 110](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	16m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	49m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
4	466m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT



This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

3

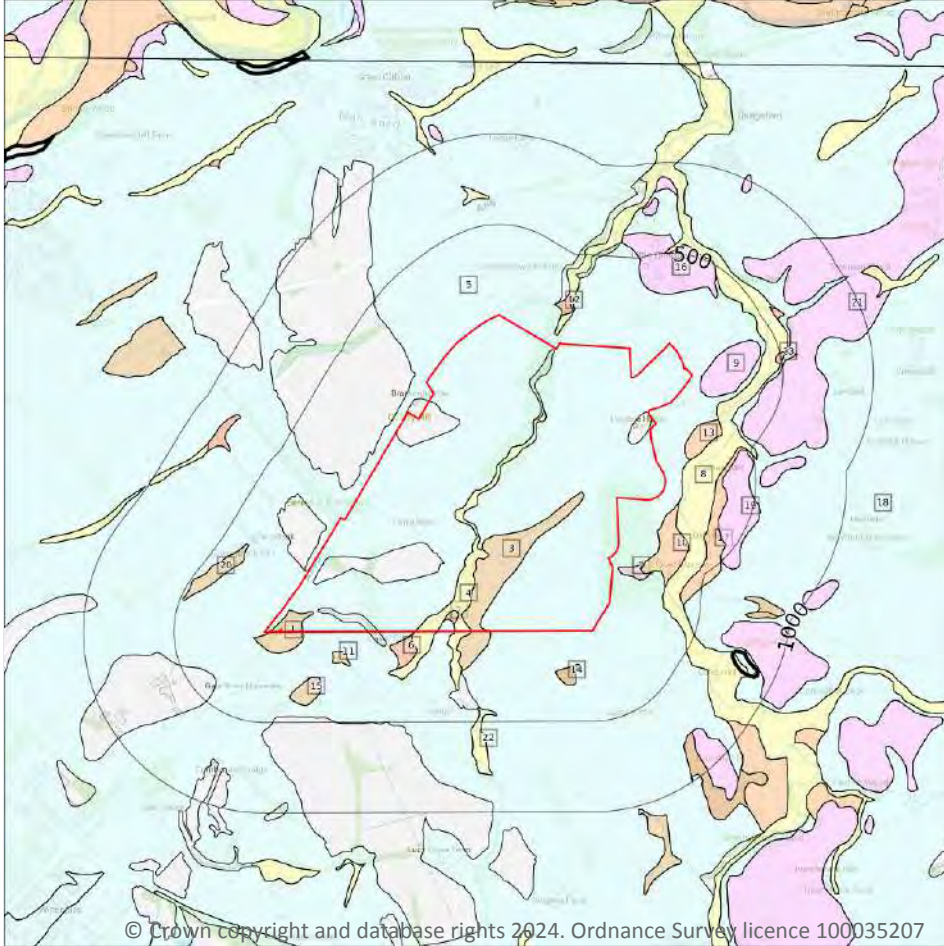
A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Very High	Low
16m W	Mixed	Very High	Low
49m W	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

23

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 112](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
2	On site	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
3	On site	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
4	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
6	11m SW	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
7	31m SE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
8	45m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
9	53m NE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
10	108m E	RTD1-XCSV	RIVER TERRACE DEPOSITS, 1	CLAY, SAND AND GRAVEL
11	108m SW	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
12	145m N	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
13	155m E	RTD1-XCSV	RIVER TERRACE DEPOSITS, 1	CLAY, SAND AND GRAVEL
14	185m SE	PEAT-P	PEAT	PEAT
15	248m SW	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
16	271m NE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
17	279m E	RTD1-XCSV	RIVER TERRACE DEPOSITS, 1	CLAY, SAND AND GRAVEL
18	312m E	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
19	317m E	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
20	332m W	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
21	364m E	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
22	424m S	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
23	466m NE	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

11

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	Intergranular	High	Very Low
On site	Intergranular	Low	Very Low



Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Mixed	High	Low
On site	Mixed	High	Low
On site	Mixed	High	Low
11m SW	Intergranular	Very High	High
31m SE	Intergranular	Very High	High
45m N	Intergranular	High	Very 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

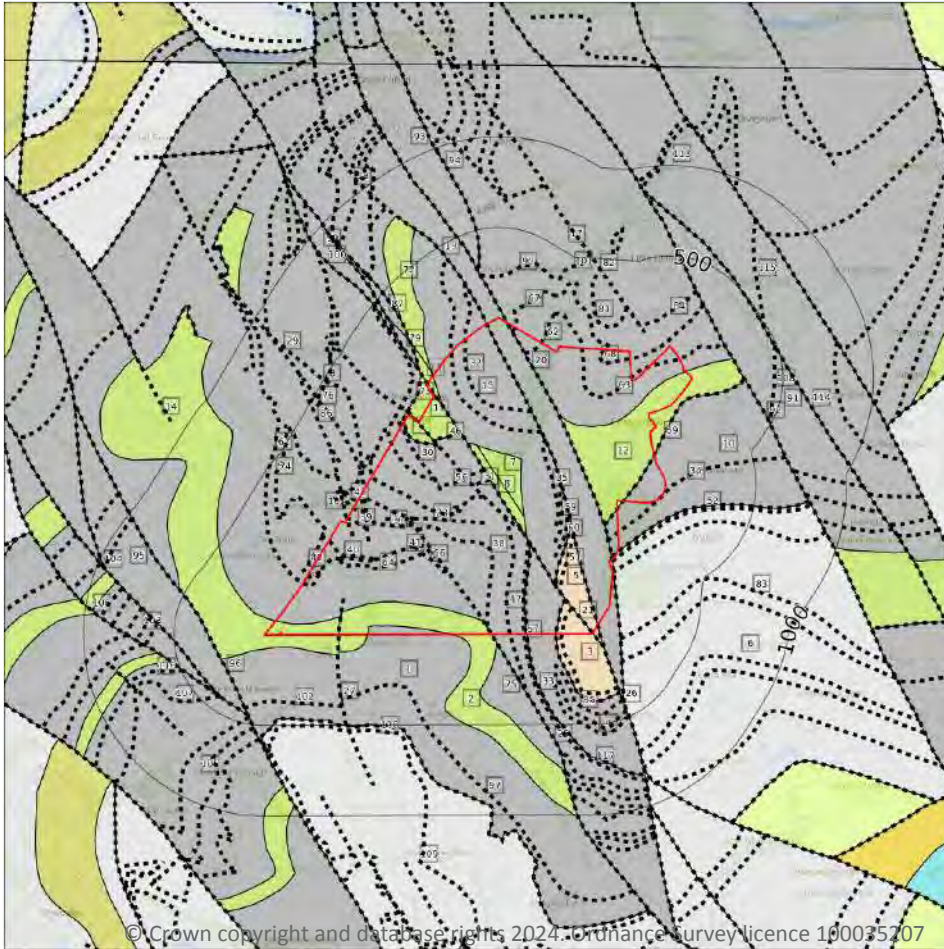
0

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

30

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 115](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
3	On site	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	On site	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
8	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
9	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
10	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
12	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
13	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
14	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
15	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
16	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
18	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
72	13m NW	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
75	46m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
79	81m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
87	206m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
91	247m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
93	275m N	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
95	276m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
99	286m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
103	411m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
105	420m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
109	463m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
113	484m NE	PMCM-MDSS	PENNINE MIDDLE 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

8

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	Moderate	Low
On site	Fracture	Moderate	Low
On site	Fracture	Moderate	Low
On site	Fracture	High	Moderate
On site	Fracture	High	Moderate
On site	Fracture	High	Moderate



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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

92

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 115 >](#)

ID	Location	Category	Description
19	On site	FAULT	Fault, inferred, displacement unknown
20	On site	FAULT	Fault, inferred, displacement unknown
21	On site	FAULT	Fault, inferred, displacement unknown
22	On site	FAULT	Fault, inferred, displacement unknown
23	On site	FAULT	Fault, inferred, displacement unknown
24	On site	FAULT	Fault, inferred, displacement unknown
25	On site	FAULT	Fault, inferred, displacement unknown
26	On site	FAULT	Fault, inferred, displacement unknown
27	On site	FAULT	Fault, inferred, displacement unknown
28	On site	FAULT	Fault, inferred, displacement unknown
29	On site	FAULT	Fault, inferred, displacement unknown
30	On site	FAULT	Fault, inferred, displacement unknown
31	On site	ROCK	Coal seam, inferred
32	On site	ROCK	Coal seam, inferred
33	On site	FOSSIL_HORIZON	Marine band
34	On site	ROCK	Coal seam, inferred
35	On site	ROCK	Coal seam, inferred
36	On site	ROCK	Coal seam, inferred



ID	Location	Category	Description
37	On site	ROCK	Coal seam, inferred
38	On site	ROCK	Coal seam, inferred
39	On site	ROCK	Coal seam, inferred
40	On site	ROCK	Coal seam, inferred
41	On site	ROCK	Coal seam, inferred
42	On site	ROCK	Coal seam, inferred
43	On site	ROCK	Coal seam, inferred
44	On site	ROCK	Coal seam, inferred
45	On site	ROCK	Coal seam, inferred
46	On site	ROCK	Coal seam, inferred
47	On site	ROCK	Coal seam, inferred
48	On site	ROCK	Coal seam, inferred
49	On site	ROCK	Coal seam, inferred
50	On site	ROCK	Coal seam, inferred
51	On site	ROCK	Coal seam, inferred
52	On site	FOSSIL_HORIZON	Marine band
53	On site	FOSSIL_HORIZON	Marine band
54	On site	FOSSIL_HORIZON	Marine band
55	On site	ROCK	Coal seam, inferred
56	On site	ROCK	Coal seam, inferred
57	On site	ROCK	Coal seam, inferred
58	On site	ROCK	Coal seam, inferred
59	On site	ROCK	Coal seam, inferred
60	On site	ROCK	Coal seam, inferred
61	On site	ROCK	Coal seam, inferred
62	On site	ROCK	Coal seam, inferred
63	On site	ROCK	Coal seam, inferred
64	On site	ROCK	Coal seam, inferred



ID	Location	Category	Description
65	On site	ROCK	Coal seam, inferred
66	On site	ROCK	Coal seam, inferred
67	On site	ROCK	Coal seam, inferred
68	On site	ROCK	Coal seam, inferred
69	On site	ROCK	Coal seam, inferred
70	5m SE	ROCK	Coal seam, inferred
71	11m SE	ROCK	Coal seam, inferred
73	18m NW	ROCK	Coal seam, inferred
74	39m W	ROCK	Coal seam, inferred
76	50m W	FAULT	Fault, inferred, displacement unknown
77	53m W	ROCK	Coal seam, inferred
78	62m W	ROCK	Coal seam, inferred
80	81m NW	FAULT	Fault, inferred, displacement unknown
81	126m NE	ROCK	Coal seam, inferred
82	132m NE	FAULT	Fault, inferred, displacement unknown
83	146m SE	ROCK	Coal seam, inferred
84	153m NE	ROCK	Coal seam, inferred
85	169m S	ROCK	Coal seam, inferred
86	191m W	FAULT	Fault, inferred, displacement unknown
88	220m S	ROCK	Coal seam, inferred
89	223m SE	ROCK	Coal seam, inferred
90	229m N	ROCK	Coal seam, inferred
92	247m NE	FAULT	Fault, inferred, displacement unknown
94	275m N	FAULT	Fault, inferred, displacement unknown
96	276m SW	FAULT	Fault, inferred, displacement unknown
97	277m SW	ROCK	Coal seam, inferred
98	284m S	ROCK	Coal seam, inferred
100	286m NW	FAULT	Fault, inferred, displacement unknown

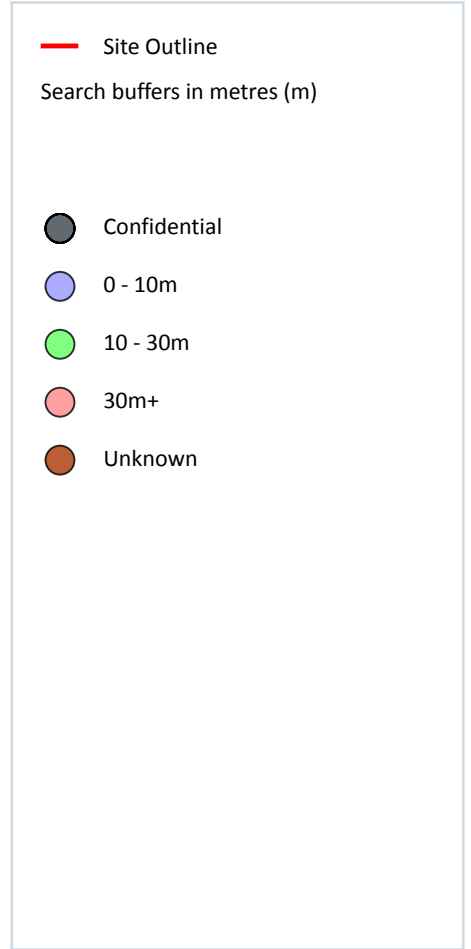
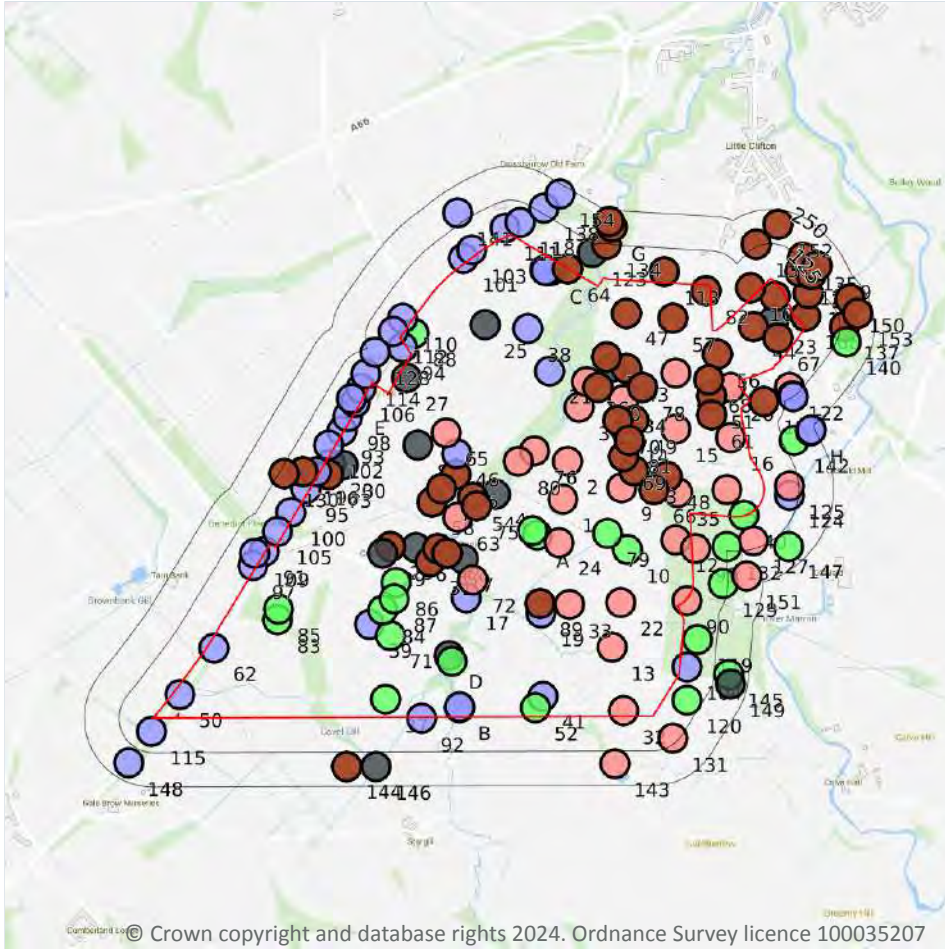


ID	Location	Category	Description
101	340m N	ROCK	Coal seam, inferred
102	367m SW	ROCK	Coal seam, inferred
104	411m SW	FAULT	Fault, inferred, displacement unknown
106	420m SW	FAULT	Fault, inferred, displacement unknown
107	421m SW	ROCK	Coal seam, inferred
A	449m NW	ROCK	Coal seam, inferred
A	449m NW	ROCK	Coal seam, inferred
108	452m NE	ROCK	Coal seam, inferred
110	463m SW	FOSSIL_HORIZON	Marine band
111	464m SW	ROCK	Coal seam, inferred
B	477m NW	ROCK	Coal seam, inferred
B	477m NW	ROCK	Coal seam, inferred
112	482m NW	ROCK	Coal seam, inferred
114	484m NE	FAULT	Fault, inferred, displacement unknown
115	486m NE	ROCK	Coal seam, inferred
116	490m SW	ROCK	Coal seam, inferred
117	492m S	ROCK	Coal seam, inferred
118	499m SW	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

172

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 122](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	304882 527465	OUTGANG OPENCAST 3864	101.0	N	820959 ↗
2	On site	304898 527603	OUTGANG OPENCAST 3877	98.0	N	820960 ↗
3	On site	304941 527799	OUTGANG OPENCAST 3327	60.0	N	820961 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
4	On site	304639 527483	CURWENS PLANT	-	Y	N/A
5	On site	305474 527500	OUTGANG OPENCAST SITE 080043	65.41	N	772250 ↗
6	On site	304350 527290	AREA OF OLD SHAFTS	-	Y	N/A
7	On site	304520 527249	UN-NAMED PIT	-	Y	N/A
8	On site	304357 527661	JOHN PIT	-	Y	N/A
9	On site	305094 527509	OUTGANG OPENCAST SITE 080046	41.1	N	772240 ↗
10	On site	305115 527283	OUTGANG OPENCAST SITE 080049	23.7	N	772239 ↗
11	On site	305288 527921	OUTGANG OPENCAST SITE 080043	81.1	N	772243 ↗
12	On site	305290 527320	OUTGANG OPENCAST SITE 080043	38.2	N	772246 ↗
13	On site	305060 526930	OUTGANG OPENCAST SITE 032049	85.0	N	772210 ↗
14	On site	305111 527713	OUTGANG OPENCAST SITE 080043	89.79	N	772241 ↗
15	On site	305290 527720	OUTGANG OPENCAST SITE 080043	94.0	N	772244 ↗
16	On site	305490 527690	OUTGANG OPENCAST SITE 080043	65.75	N	772249 ↗
17	On site	304532 527110	LOSTRIGG O.C.C.S. 7083	5.0	N	821159 ↗
18	On site	305060 527944	LOSTRIGG O.C.C.S. 7081	-	Y	N/A
19	On site	304804 527054	LOSTRIGG O.C.C.S. 7061	4.0	N	821141 ↗
20	On site	304042 527594	LOSTRIGG O.C.C.S. 7074	4.1	N	821152 ↗
21	On site	304833 527931	LOSTRIGG O.C.C.S. 7080	5.0	N	821158 ↗
22	On site	305092 527091	OUTGANG OPENCAST SITE 080049	42.1	N	772238 ↗
23	On site	305646 528113	LOSTRIGG O.C.C.S. 7082	-	Y	N/A
24	On site	304867 527309	OUTGANG OPENCAST 2842	101.0	N	820958 ↗
25	On site	304599 528098	BH 6	-	Y	N/A
26	On site	305490 527870	OUTGANG OPENCAST SITE 080043	80.79	N	772248 ↗
27	On site	304314 527904	COAL 4	-	Y	N/A
28	On site	304257 527295	RAG DRIFT - ADIT	-1.0	N	820940 ↗
29	On site	304230 527272	COAL SHAFT	-	Y	N/A
30	On site	304086 527591	WINDSOR CASTLE OR WINCER PIT	-	Y	N/A
31	On site	304400 527240	JUBILEE DRIFT - ADIT	-1.0	N	820941 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
32	On site	305100 526700	LOSTRIGG OPENCAST SITE 032095	110.2	N	772230 ↗
33	On site	304904 527084	OUTGANG OPENCAST SITE 175 - 180	107.0	N	820957 ↗
34	On site	305102 527826	OUTGANG OPENCAST SITE 080043	82.55	N	772242 ↗
35	On site	305296 527490	OUTGANG OPENCAST SITE 080043	70.83	N	772245 ↗
36	On site	304967 527890	OUTGANG OPENCAST 4060	76.87	N	820962 ↗
37	On site	304240 526742	LOSTRIGG O.C.C.S. 7065	11.3	N	821145 ↗
38	On site	304756 528084	LOSTRIGG O.C.C.S. 7079	5.0	N	821157 ↗
39	On site	304181 527013	LOSTRIGG O.C.C.S. 7084	3.3	N	821160 ↗
40	On site	305537 527407	OUTGANG OPENCAST 3242	11.4	N	772266 ↗
41	On site	304809 526753	LOSTRIGG O.C.C.S. 7062	3.65	N	821142 ↗
42	On site	304430 527288	UN-NAMED ADIT	-1.0	N	820930 ↗
43	On site	305110 527940	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772139 ↗
44	On site	305570 528090	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772127 ↗
45	On site	304495 527554	BH 10	-1.0	N	820783 ↗
46	On site	304497 527632	UN-NAMED PIT	5.5	N	820923 ↗
47	On site	305110 528140	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772137 ↗
48	On site	305260 527550	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772146 ↗
49	On site	305140 527750	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772142 ↗
50	On site	303495 526761	A595 GALEBROW-WINSKALE IMPROVEMENT	2.13	N	820803 ↗
51	On site	305420 527840	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772133 ↗
52	On site	304782 526713	CARR BECK AND LOSTRIGG BECK LB6	13.72	N	17322953 ↗
53	On site	305140 527570	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772145 ↗
54	On site	304555 527472	JOHN PIT ADIT	-1.0	N	820928 ↗
55	On site	305650 528200	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772126 ↗
56	On site	305440 527990	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772131 ↗
57	On site	305280 528120	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772136 ↗
58	On site	304407 527457	BH 2	-1.0	N	820779 ↗
59	On site	304463 527270	UN-NAMED DRIFT	-1.0	N	820929 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
60	On site	305010 527870	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772148 ↗
61	On site	305420 527770	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772134 ↗
62	On site	303619 526929	A595 GALEBROW-WINSCALE IMPROVEMENT	2.13	N	820804 ↗
63	On site	304500 527400	CLIFTON MOOR A - WCC NO.15A	107.95	N	821024 ↗
64	On site	304900 528300	CLIFTON MOOR B.	-1.0	N	821023 ↗
A	On site	304789 527337	LOSTRIGG O.C.C.S. 7060	20.0	N	821140 ↗
A	On site	304772 527353	CLIFTON COLLIERY U/G BH	12.8	N	820937 ↗
65	On site	304458 527708	CARR BECK AND LOSTRIGG BECK LB3A	37.7	N	17322950 ↗
B	On site	304506 526712	LOSTRIGG O.C.C.S. 7064	5.0	N	821144 ↗
B	On site	304507 526714	LOSTRIGG O.C.C.S. 7063	3.51	N	821143 ↗
66	On site	305210 527500	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772147 ↗
C	On site	304837 528294	LOSTRIGG O.C.C.S. 7078	15.0	N	821156 ↗
C	On site	304822 528294	LOSTRIGG O.C.C.S. 7077	4.5	N	821155 ↗
C	On site	304817 528295	LOSTRIGG O.C.C.S. 7075	4.0	N	821153 ↗
C	On site	304819 528294	LOSTRIGG O.C.C.S. 7076	4.3	N	821154 ↗
67	On site	305660 528050	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772125 ↗
D	On site	304471 526899	DAVIDSON'S DIAMOND	-	Y	N/A
68	On site	305410 527900	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772132 ↗
D	On site	304481 526881	CARR BECK AND LOSTRIGG BECK LB7	26.36	N	17322954 ↗
69	On site	305100 527620	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772144 ↗
70	On site	305080 527750	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772141 ↗
71	On site	304257 526973	CARR BECK AND LOSTRIGG BECK LB8	13.72	N	17322955 ↗
72	On site	304557 527174	CARR BECK AND LOSTRIGG BECK LB2	61.02	N	17322949 ↗
73	On site	304034 527556	BH 6	-1.0	N	820777 ↗
74	On site	304442 527505	NEW PIT	-1.0	N	820924 ↗
75	On site	304569 527441	BH 1	-1.0	N	820778 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
76	On site	304779 527640	CARR BECK AND LOSTRIGG BECK LB1	62.33	N	17322948 ↗
77	On site	305040 527980	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772138 ↗
78	On site	305170 527870	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772140 ↗
79	On site	305041 527343	CARR BECK AND LOSTRIGG BECK LB5	14.93	N	17322952 ↗
80	On site	304720 527602	CARR BECK AND LOSTRIGG BECK LB4	47.54	N	17322951 ↗
81	On site	305120 527680	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772143 ↗
82	On site	305400 528220	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772130 ↗
83	On site	303850 527030	LOST RIGG O.C.C.S. 3	19.1	N	18068112 ↗
84	On site	304229 527064	LOST RIGG O.C.C.S. 4A	27.8	N	18068114 ↗
85	On site	303851 527069	LOST RIGG O.C.C.S. 2	20.5	N	18068915 ↗
86	On site	304277 527164	LOST RIGG O.C.C.S. 4	17.3	N	18068113 ↗
87	On site	304272 527105	LOST RIGG O.C.C.S. 5	18.0	N	18068916 ↗
88	On site	304342 528067	LOST RIGG O.C.C.S. 1A	10.5	N	18068110 ↗
89	On site	304800 527090	LOSTRIGG O/C	-1.0	N	820949 ↗
90	4m SE	305330 527100	OUTGANG OPENCAST SITE 080043	34.06	N	772247 ↗
91	5m W	303799 527277	A595 GALEBROW - QUARRY HILL PIT 3	3.0	N	820819 ↗
92	5m S	304370 526672	LOSTRIGG O.C.C.S. 7069	7.0	N	821149 ↗
93	7m NW	304082 527714	A595 IMPROVEMENT PIT 9	3.0	N	820829 ↗
94	11m NW	304302 528016	LOST RIGG O.C.C.S. 1	4.0	N	18068109 ↗
95	12m W	303952 527504	A595 GALEBROW - QUARRY HILL PIT 6	1.0	N	820822 ↗
96	12m W	303989 527567	A595 GALEBROW - QUARRY HILL PIT 7	1.0	N	820823 ↗
97	12m W	303759 527225	A595 GALEBROW - QUARRYHILL PIT 1	3.0	N	820817 ↗
98	13m NW	304104 527764	A595 IMPROVEMENT PIT 10	3.0	N	820830 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
99	14m E	305362 527288	OUTGANG OPENCAST 3252	55.35	N	772268 ↗
100	16m W	303897 527418	A595 GALEBROW - QUARRYHILL PIT 5	1.0	N	820821 ↗
101	17m N	304521 528337	A595 CHAPEL BROW - GALE BROW BH2	2.0	N	820834 ↗
E	18m NW	304129 527817	A595 GALEBROW - QUARRY HILL BH1	3.0	N	820828 ↗
102	22m W	304034 527662	A595 GALEBROW TO QUARRY HILL PIT 8	2.0	N	820824 ↗
103	23m N	304552 528368	A595 CHAPEL BROW - GALE BROW BH3	2.0	N	820835 ↗
104	25m SE	305330 526860	OUTGANG OPENCAST SITE 032049	7.53	N	772225 ↗
105	25m W	303847 527351	A595 GALEBROW - QUARRY HILL PIT 4	1.0	N	820820 ↗
106	26m NW	304149 527867	A595 IMPROVEMENT PIT 12	4.0	N	820832 ↗
107	27m NE	305560 528230	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772129 ↗
108	28m NE	305760 528130	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772124 ↗
109	30m W	303765 527269	A595 GALEBROW - QUARRYHILL PIT 2	2.0	N	820818 ↗
110	33m NW	304301 528121	A595 GALEBROW - QUARRY HILL PIT 16	1.0	N	820827 ↗
111	33m N	304671 528449	A595 CHAPEL BROW - GALE BROW 1A	1.0	N	820836 ↗
112	34m NW	304267 528074	A595 GALEBROW - QUARRY HILL PIT 15	1.0	N	820826 ↗
E	37m NW	304115 527831	A595 IMPROVEMENT PIT 11	3.0	N	820831 ↗
113	40m NE	305250 528290	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772135 ↗
114	41m NW	304167 527920	A595 IMPROVEMENT PIT 13	2.0	N	820833 ↗
115	50m SW	303391 526625	A595 GALEBROW-WINSCALE IMPROVEMENT	4.88	N	820802 ↗
116	50m W	303943 527564	BH 7	-1.0	N	820781 ↗
117	51m NE	305610 527820	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772128 ↗
118	55m N	304727 528467	A595 CHAPEL BROW - GALE BROW 8	2.0	N	820837 ↗
119	56m SE	305370 526960	OUTGANG OPENCAST SITE 032049	26.05	N	772226 ↗
120	73m SE	305330 526740	OUTGANG OPENCAST SITE 032049	10.6	N	772227 ↗
121	79m NE	305770 528210	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772121 ↗
122	90m NE	305700 527870	OUTGANG OPENCAST SITE 080043	65.5	N	772232 ↗
123	92m N	304987 528357	CROSS BURROW (LOSTRIGG)	-	Y	N/A
124	92m E	305701 527480	LOST RIGG O.C.C.S. 23	9.5	N	18068719 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
125	93m E	305703 527515	OUTGANG OPENCAST SITE 080043	33.14	N	772255 ↗
126	94m NE	305740 528290	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772119 ↗
127	97m E	305572 527316	OUTGANG OPENCAST 3239	32.85	N	772265 ↗
128	103m NW	304202 527999	A595 GALEBROW - QUARRYHILL PIT 14	1.0	N	820825 ↗
129	106m E	305460 527160	OUTGANG OPENCAST SITE	24.24	N	772252 ↗
130	108m W	303873 527558	BH 8	-1.0	N	820782 ↗
131	108m SE	305280 526600	OUTGANG OPENCAST SITE 032049	70.0	N	772212 ↗
132	111m E	305474 527294	OUTGANG OPENCAST SITE	15.45	N	772251 ↗
133	120m NE	305780 528280	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772120 ↗
F	120m E	305712 527841	LOST RIGG O.C.C.S. 25	4.1	N	18068722 ↗
134	124m N	305040 528390	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772151 ↗
F	125m E	305716 527838	LOST RIGG O.C.C.S. 25A	8.5	N	18068723 ↗
135	134m NE	305750 528340	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772117 ↗
136	136m NE	305580 528390	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772116 ↗
137	141m NE	305900 528090	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772176 ↗
138	146m N	304814 528521	A595 CHAPEL BROW - GALE BROW 4	4.0	N	820838 ↗
139	153m NE	305800 528310	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772118 ↗
140	158m NE	305907 528036	LOST RIGG O.C.C.S. 26	16.5	N	18068724 ↗
141	160m N	304501 528501	CLIFTON COLLIERY STAPLE PIT	7.3	N	820938 ↗
142	168m E	305720 527680	OUTGANG OPENCAST SITE 080043	10.3	N	772256 ↗
143	170m SE	305070 526510	OUTGANG OPENCAST SITE 032049	101.25	N	772213 ↗
144	177m SW	304100 526500	CLIFTON MOOR	-1.0	N	821018 ↗
145	178m SE	305481 526833	CLIFTON COLL NO3 LITTLE CLIFTON	22.55	N	772012 ↗
146	178m SW	304206 526499	STARGILL	-	Y	N/A
147	178m E	305697 527296	OUTGANG OPENCAST SITE	26.59	N	772254 ↗
G	186m N	305060 528450	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772150 ↗
148	186m SW	303309 526512	A595 GALEBROW-WINSKALE IMPROVEMENT	3.66	N	820801 ↗

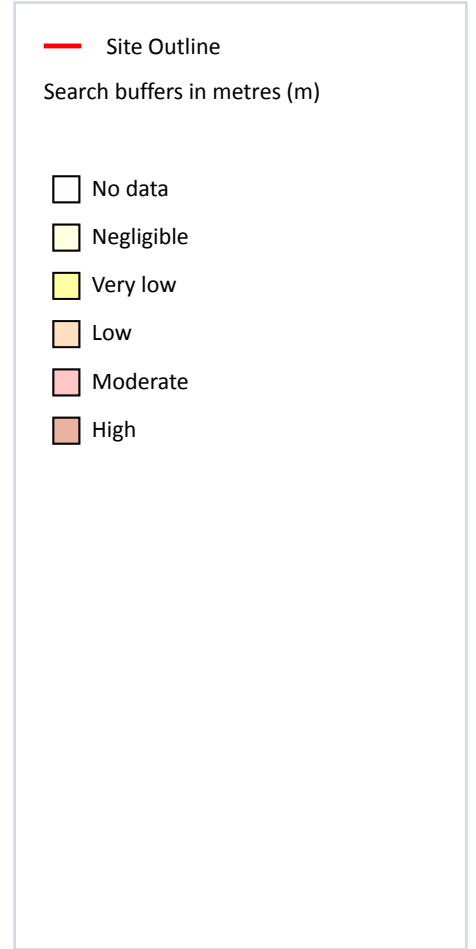
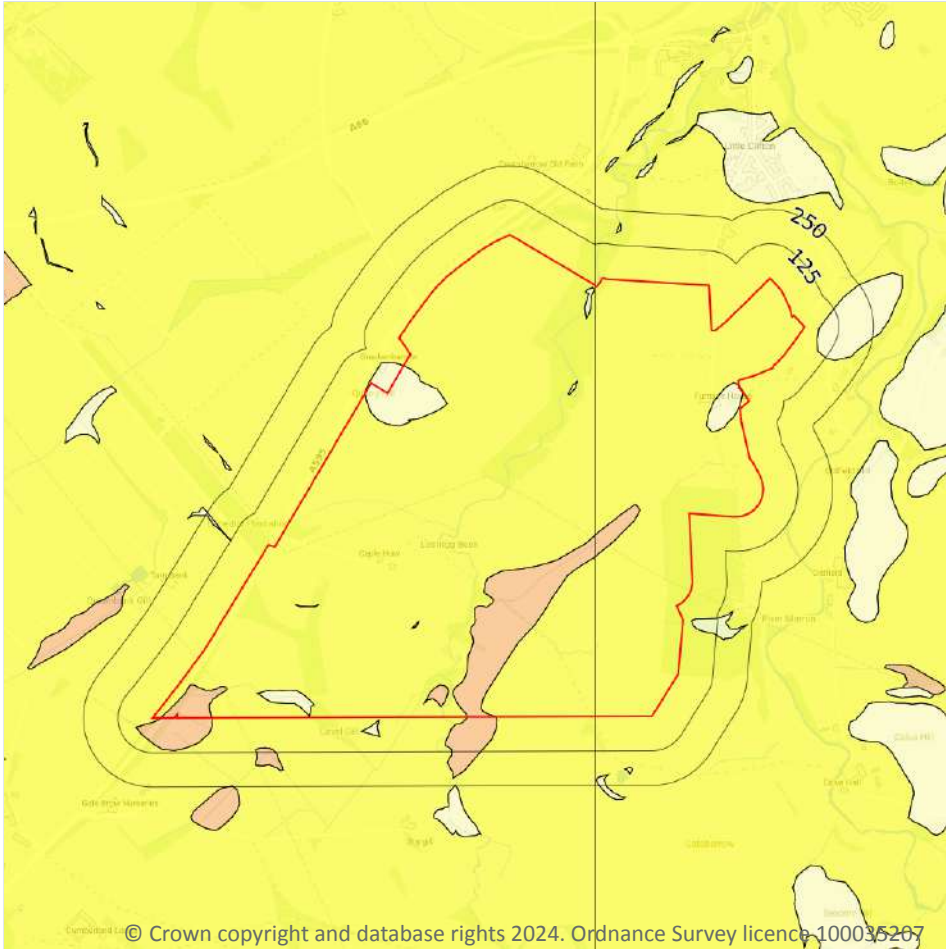


ID	Location	Grid reference	Name	Length	Confidential	Web link
149	188m SE	305487 526797	LOSTRIGG O.C.C.S. 7053	-	Y	N/A
150	189m NE	305920 528190	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772122 ↗
151	193m E	305546 527189	OUTGANG OPENCAST 3246	33.05	N	772267 ↗
152	196m NE	305660 528460	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772113 ↗
153	197m NE	305950 528140	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772123 ↗
G	204m N	305050 528470	UNNAMED SHAFT LITTLE CLIFTON	-1.0	N	772149 ↗
154	219m N	304871 528572	A595 CHAPEL BROW - GALE BROW 9	3.0	N	820839 ↗
H	234m E	305778 527714	LOST RIGG O.C.C.S. 24A	8.4	N	18068721 ↗
H	237m E	305781 527715	LOST RIGG O.C.C.S. 24	3.7	N	18068720 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

5

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 130 >](#)

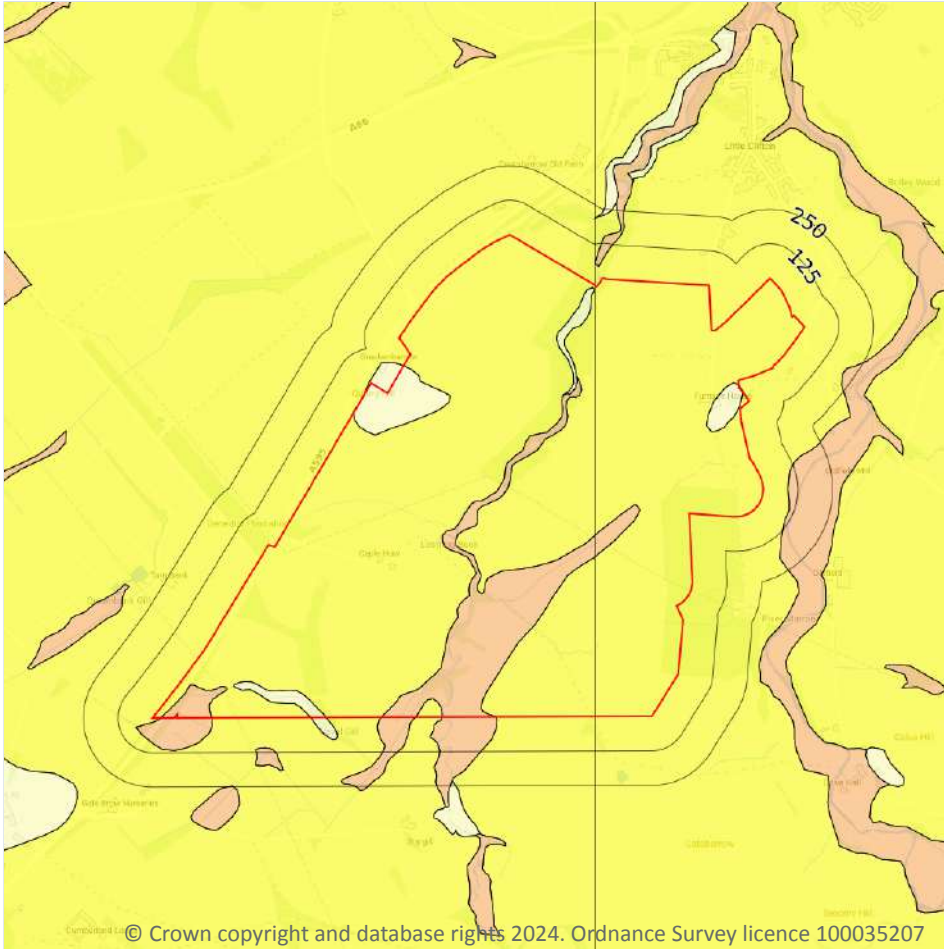
Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
On site	Low	Ground conditions predominantly medium plasticity.

Location	Hazard rating	Details
11m SW	Negligible	Ground conditions predominantly non-plastic.
31m SE	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



— Site Outline
Search buffers in metres (m)

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

17.2 Running sands

Records within 50m

4

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 132](#) >

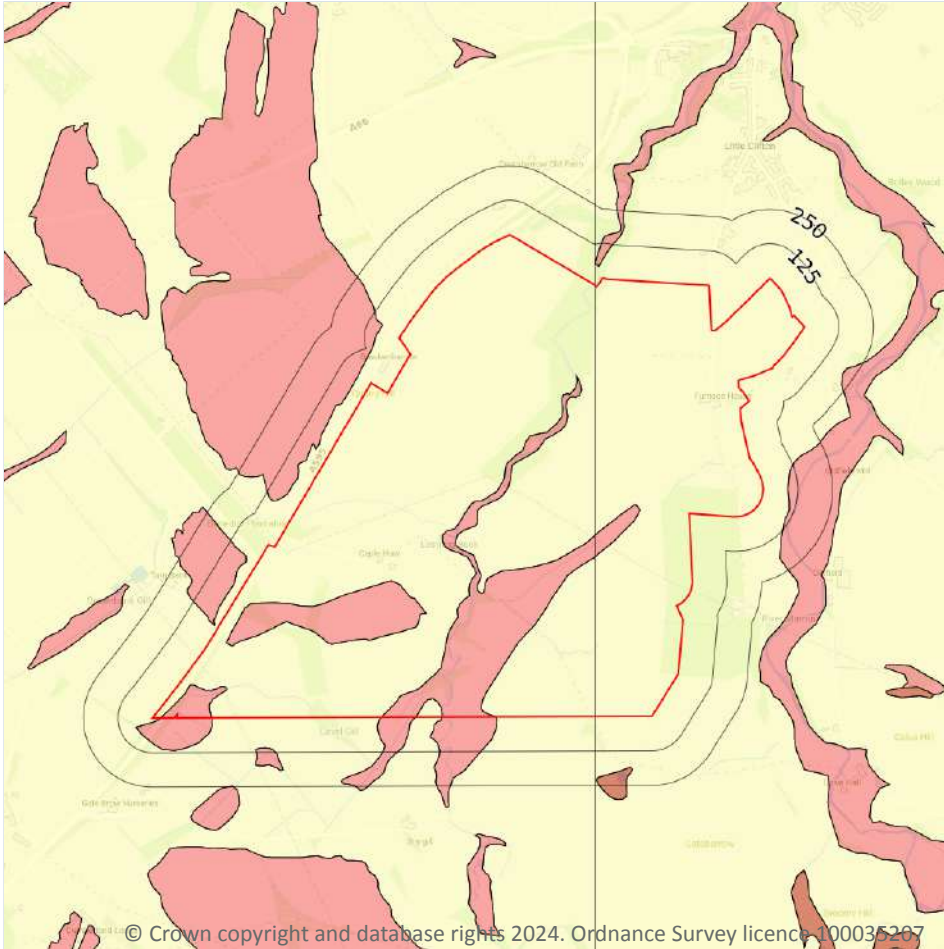
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
45m N	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

5

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 134](#) >

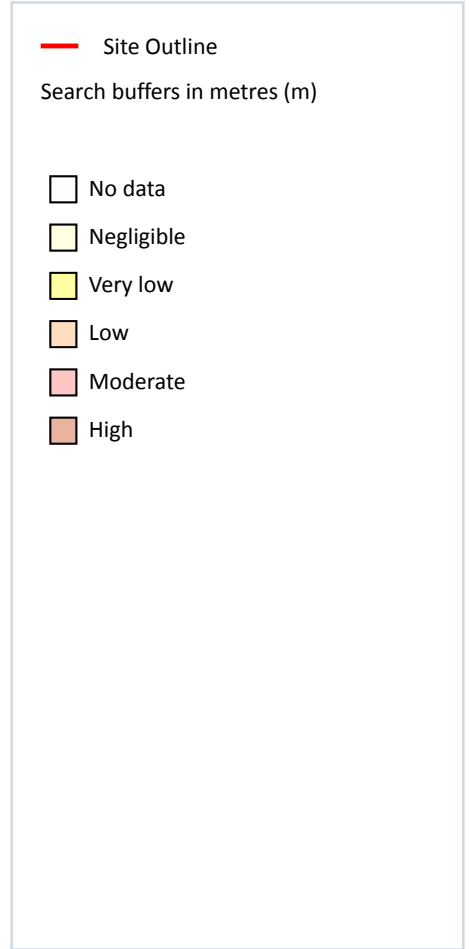
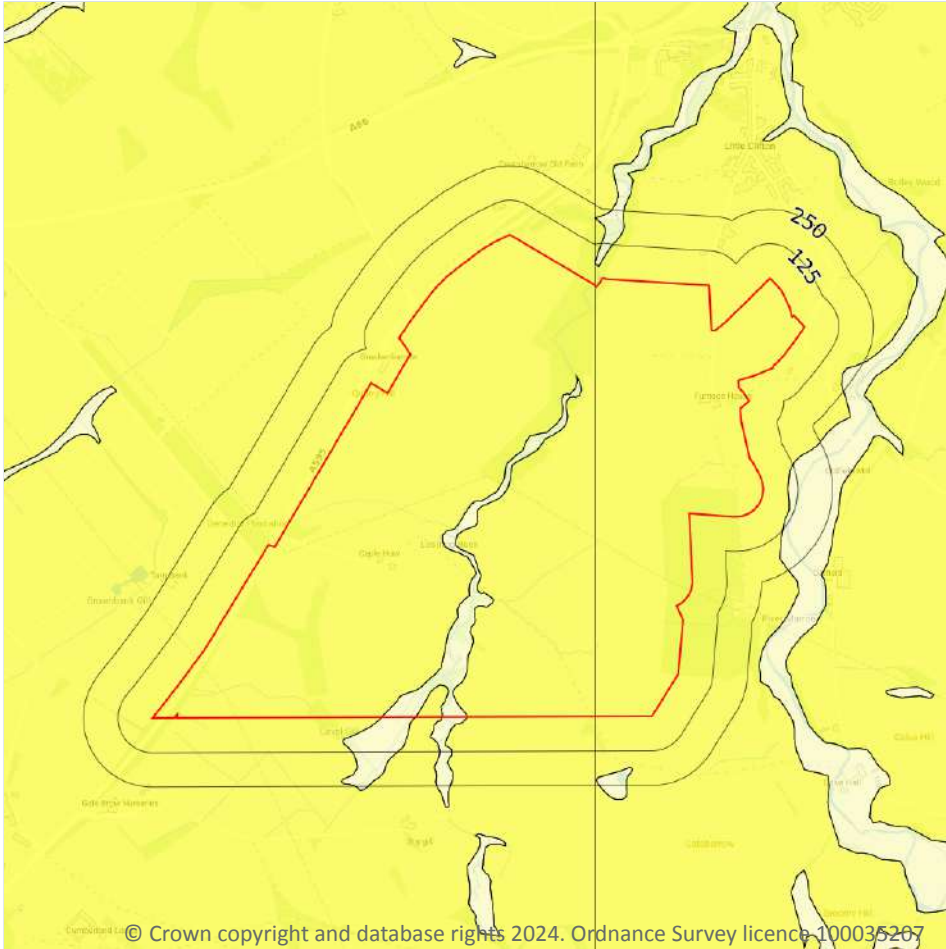
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

Location	Hazard rating	Details
16m W	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
45m N	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
49m W	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

3

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 136 >](#)

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
45m N	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.



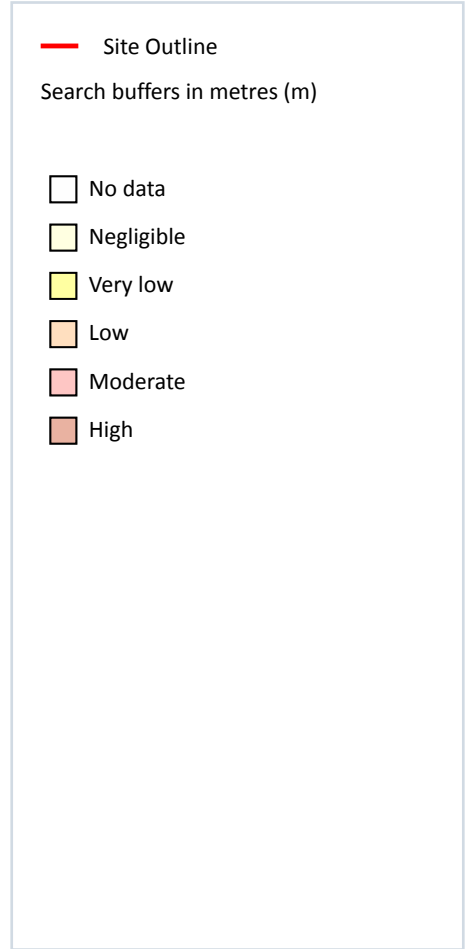
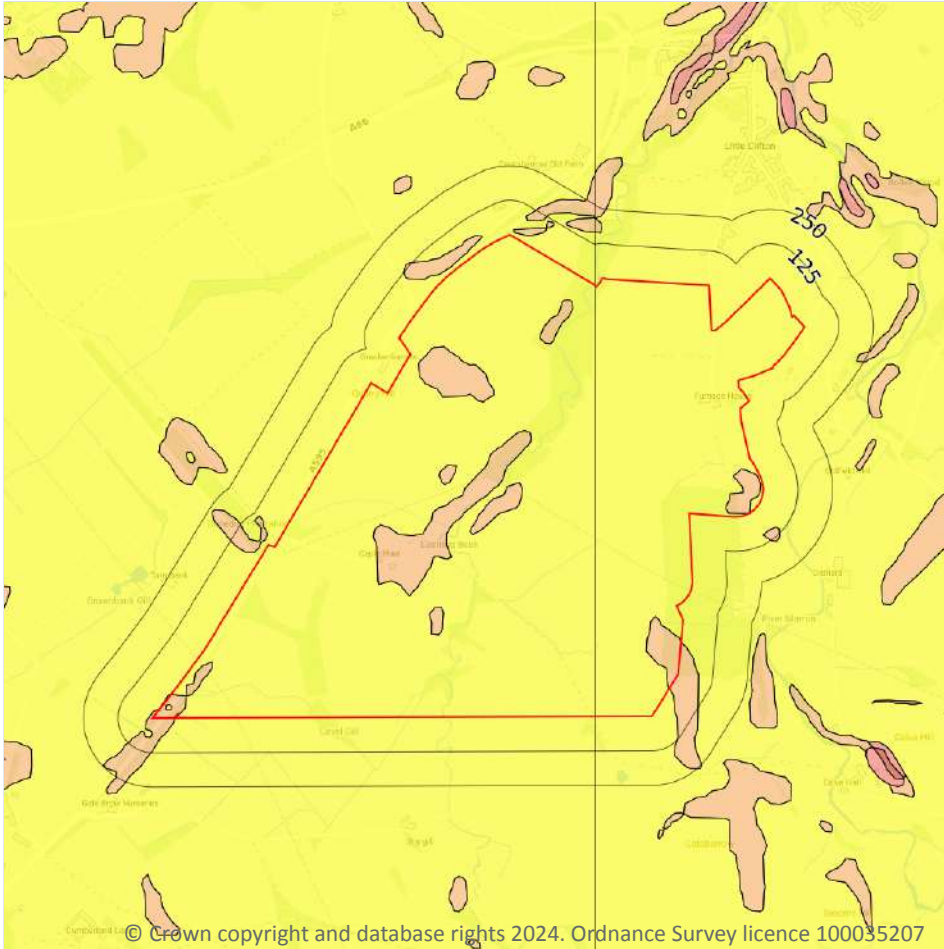
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info@groundsure.com ↗

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Date: 23 April 2024

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

5

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 138](#) >

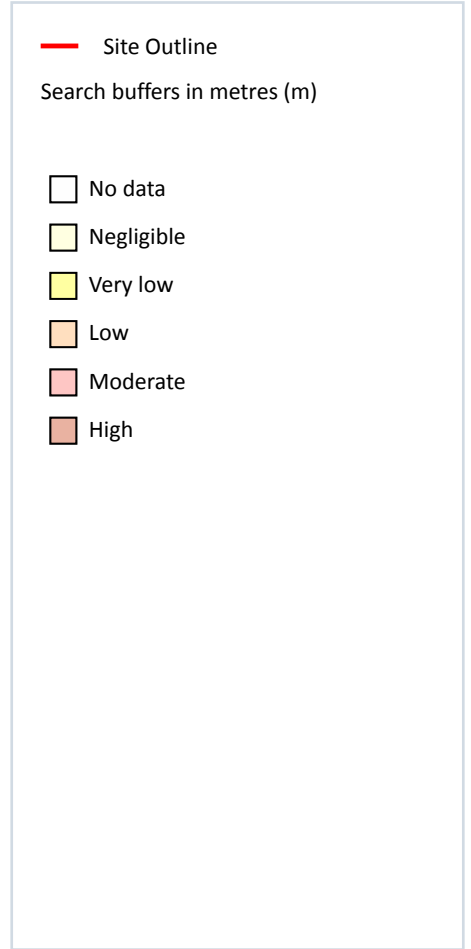
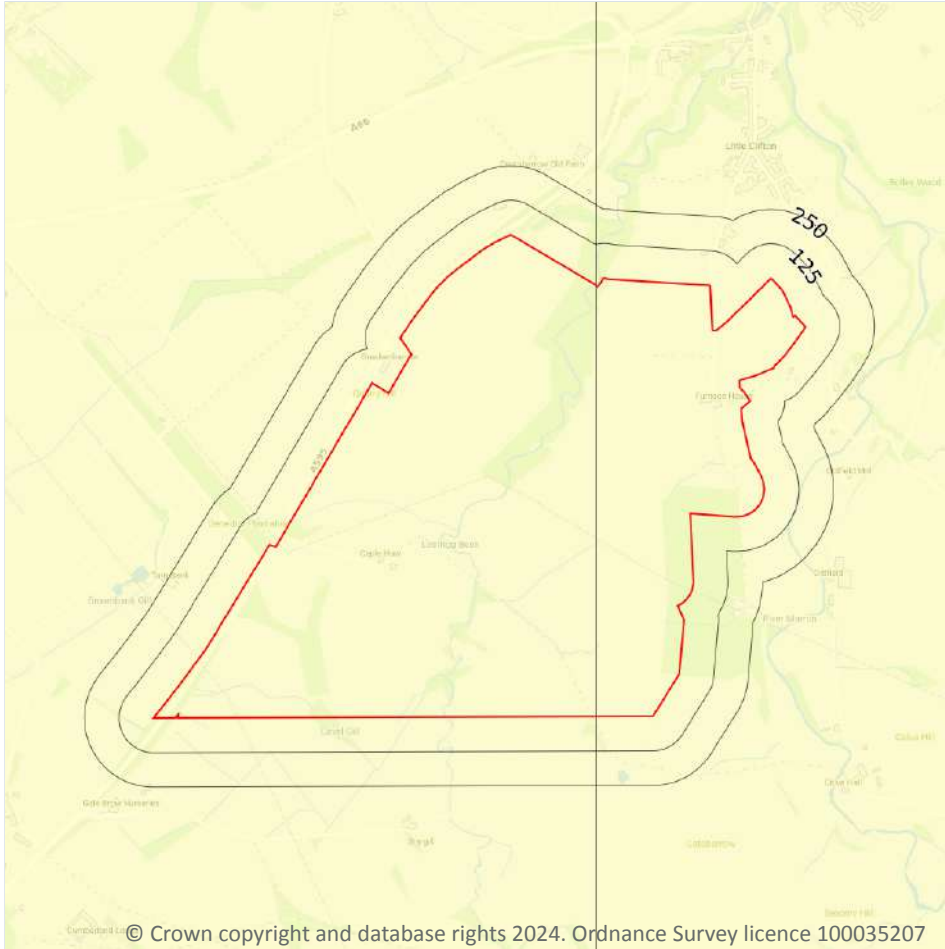
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
15m N	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
18m N	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
22m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

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 140 >](#)

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.



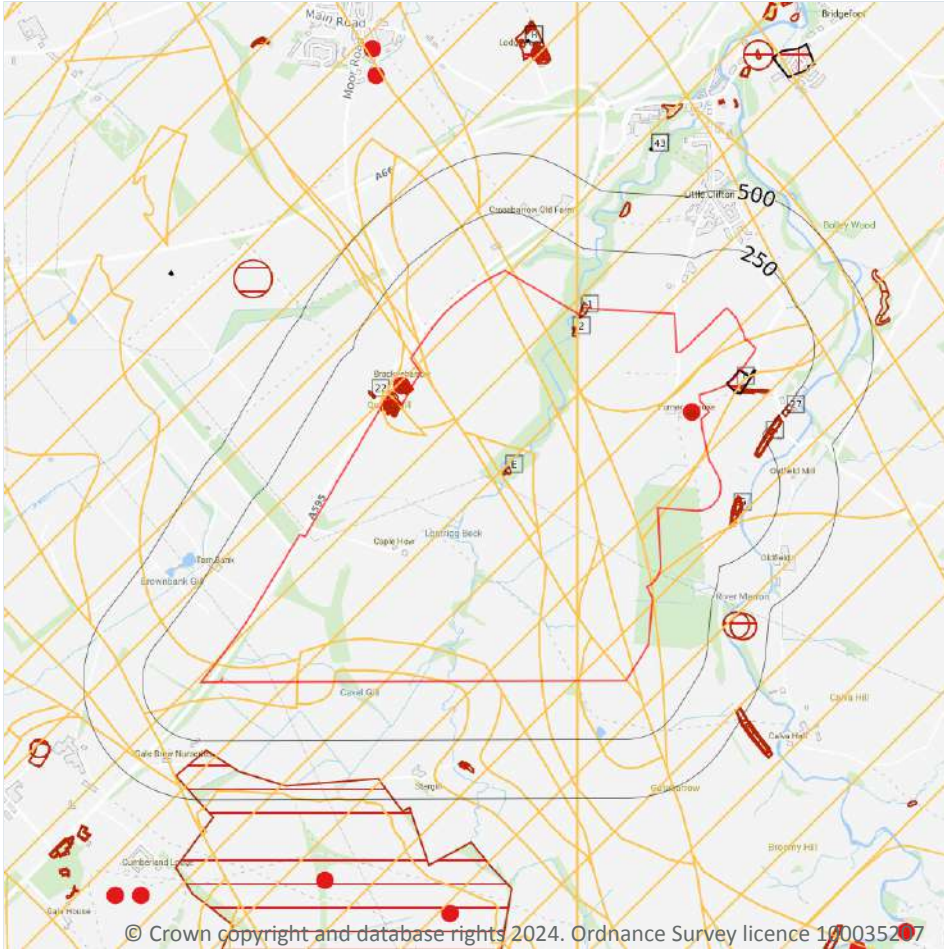
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Date: 23 April 2024

18 Mining and ground workings



18.1 BritPits

Records within 500m

2

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

Features are displayed on the Mining and ground workings map on [page 142](#) >

ID	Location	Details	Description
A	On site	Name: Furnace House Address: Little Clifton, WORKINGTON, Cumbria 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
D	40m NW	Name: Brackenbarrow Address: Clifton Moor, WORKINGTON, Cumbria 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.

18.2 Surface ground workings

Records within 250m	61
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Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 142 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Unspecified Pit	1992	1:10000
2	On site	Unspecified Pit	1981	1:10000
A	On site	Unspecified Quarry	1951	1:10560
A	On site	Unspecified Quarry	1947	1:10560
A	On site	Unspecified Old Quarry	1898	1:10560
A	On site	Unspecified Quarry	1926	1:10560
A	On site	Unspecified Ground Workings	1923	1:10560
A	On site	Unspecified Ground Workings	1923	1:10560
A	On site	Unspecified Ground Workings	1923	1:10560
B	On site	Unspecified Drift	1951	1:10560
C	On site	Ponds	1951	1:10560
C	On site	Ponds	1981	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
C	On site	Unspecified Heap	1864	1:10560
C	On site	Pond	1864	1:10560
C	On site	Unspecified Heap	1947	1:10560
C	On site	Unspecified Heap	1898	1:10560
C	On site	Unspecified Heap	1926	1:10560
C	On site	Pond	1947	1:10560
C	On site	Pond	1898	1:10560
C	On site	Ponds	1926	1:10560
C	On site	Unspecified Heap	1926	1:10560
C	On site	Unspecified Heap	1951	1:10560
C	On site	Unspecified Heap	1981	1:10000
C	On site	Unspecified Ground Workings	1981	1:10000
C	On site	Ponds	1923	1:10560
C	On site	Ponds	1923	1:10560
C	On site	Ponds	1923	1:10560
D	On site	Unspecified Ground Workings	1947	1:10560
D	On site	Unspecified Old Quarries	1898	1:10560
D	On site	Unspecified Quarry	1926	1:10560
D	On site	Unspecified Pit	1951	1:10560
D	On site	Unspecified Pit	1981	1:10000
E	On site	Unspecified Heap	1864	1:10560
D	33m NW	Unspecified Heap	1981	1:10000
F	34m NE	Unspecified Ground Workings	1923	1:10560
F	34m NE	Unspecified Ground Workings	1923	1:10560
F	34m NE	Unspecified Ground Workings	1923	1:10560
F	37m NE	Unspecified Ground Workings	1926	1:10560
F	37m NE	Unspecified Ground Workings	1926	1:10560
22	44m NW	Ponds	1926	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
G	69m E	Cuttings	1947	1:10560
G	69m E	Cuttings	1898	1:10560
G	71m E	Cuttings	1923	1:10560
G	71m E	Cuttings	1923	1:10560
G	71m E	Cuttings	1923	1:10560
G	72m E	Cuttings	1951	1:10560
G	76m E	Cuttings	1926	1:10560
G	78m E	Cuttings	1970	1:10000
G	79m E	Cuttings	1992	1:10000
H	181m E	Cuttings	1923	1:10560
H	181m E	Cuttings	1923	1:10560
H	181m E	Cuttings	1923	1:10560
H	182m E	Cuttings	1951	1:10560
H	182m E	Cuttings	1992	1:10000
H	183m E	Cuttings	1947	1:10560
H	183m E	Cuttings	1898	1:10560
H	187m E	Cuttings	1926	1:10560
H	193m E	Cuttings	1970	1:10000
I	247m E	Cuttings	1947	1:10560
I	247m E	Cuttings	1898	1:10560
27	249m E	Cuttings	1970	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

3

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 and ground workings map on [page 142 >](#)



ID	Location	Land Use	Year of mapping	Mapping scale
B	On site	Unspecified Drift	1951	1:10560
43	689m NE	Air Shaft	1864	1:10560
R	980m N	Unspecified Shaft	1864	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

51

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

Features are displayed on the Mining and ground workings map on [page 142 >](#)

ID	Location	Name	Commodity	Class	Likelihood
3	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
4	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
5	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
6	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
7	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
8	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
9	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
10	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
11	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
12	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
13	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
14	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
15	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
16	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
17	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
18	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
19	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
20	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
A	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
C	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
D	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
E	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
21	13m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
23	46m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
24	81m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
25	206m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
26	247m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
28	275m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
29	276m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
30	286m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
32	411m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
33	420m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
34	461m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
35	463m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
36	484m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
38	532m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
39	534m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
40	586m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
41	600m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
44	712m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
45	780m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
46	791m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
47	805m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
49	836m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
52	871m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
53	926m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
-	938m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	943m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
56	943m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	968m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
60	985m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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



Location	Mineral type
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
On site	Unspecified
17m NE	Unspecified
22m NE	Unspecified
26m NE	Unspecified
33m NE	Unspecified
51m NE	Unspecified
61m NE	Unspecified
75m NE	Unspecified
85m NE	Unspecified
90m NE	Unspecified
94m NE	Unspecified
105m NE	Unspecified
108m N	Unspecified
111m NE	Unspecified
152m NE	Unspecified
179m NE	Unspecified
192m NE	Unspecified



Location	Mineral type
213m NE	Unspecified
218m NE	Unspecified
224m NE	Unspecified
255m NE	Unspecified
255m N	Unspecified
270m NE	Unspecified
293m NE	Unspecified
300m NE	Unspecified
343m NE	Unspecified
417m NE	Unspecified
425m NE	Unspecified
483m NE	Unspecified

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.



18.12 Coal mining

Records on site 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.

18.13 Brine areas

Records on site 0

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

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

18.14 Gypsum areas

Records on site 0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site 0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

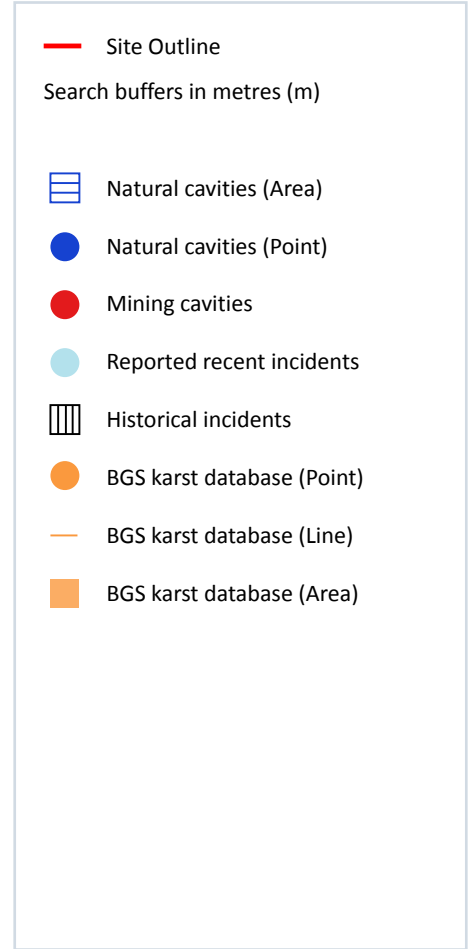
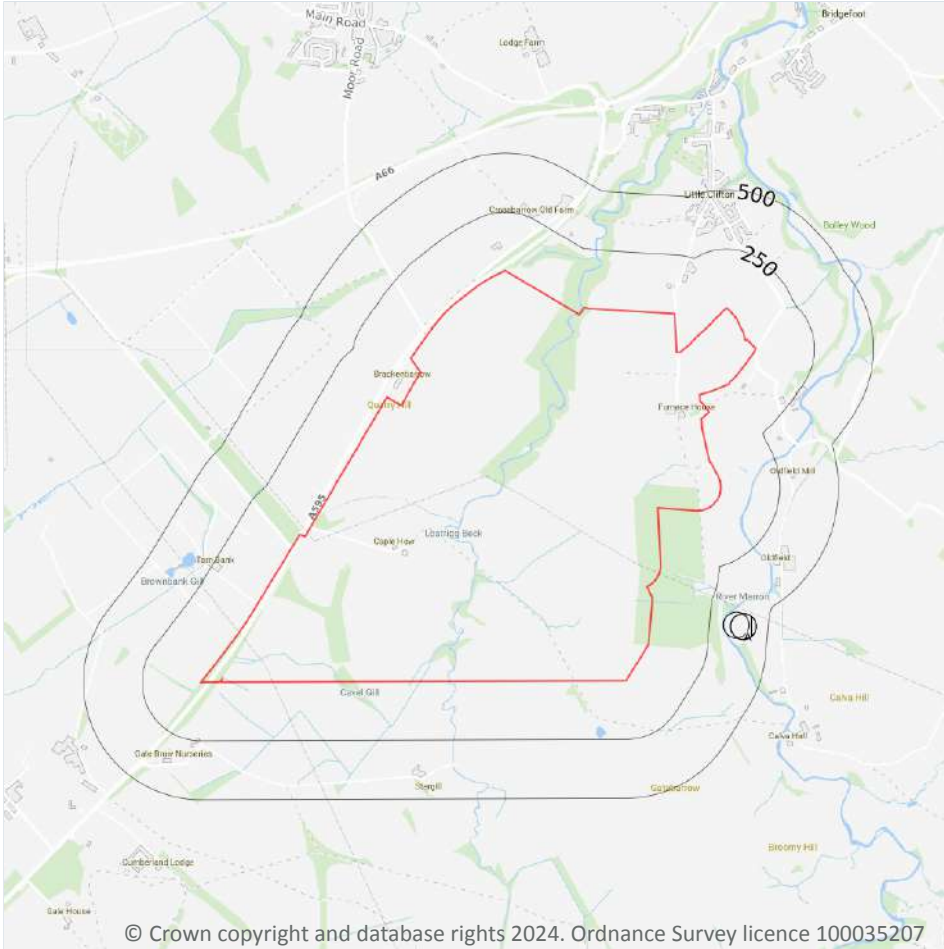
Records on site 0

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

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



19 Ground cavities and sinkholes



19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

3

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

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

Features are displayed on the Ground cavities and sinkholes map on [page 157 >](#)

ID	Location	Type	Date of mapping
A	309m SE	Unspecified Hole	1864
A	340m SE	Unspecified Hole	1947
A	340m SE	Unspecified Hole	1898

This data is sourced from Groundsure.



19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

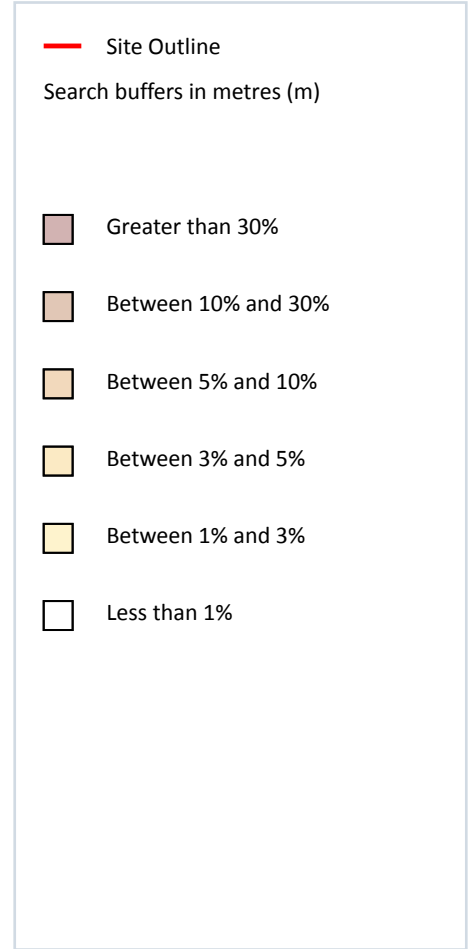
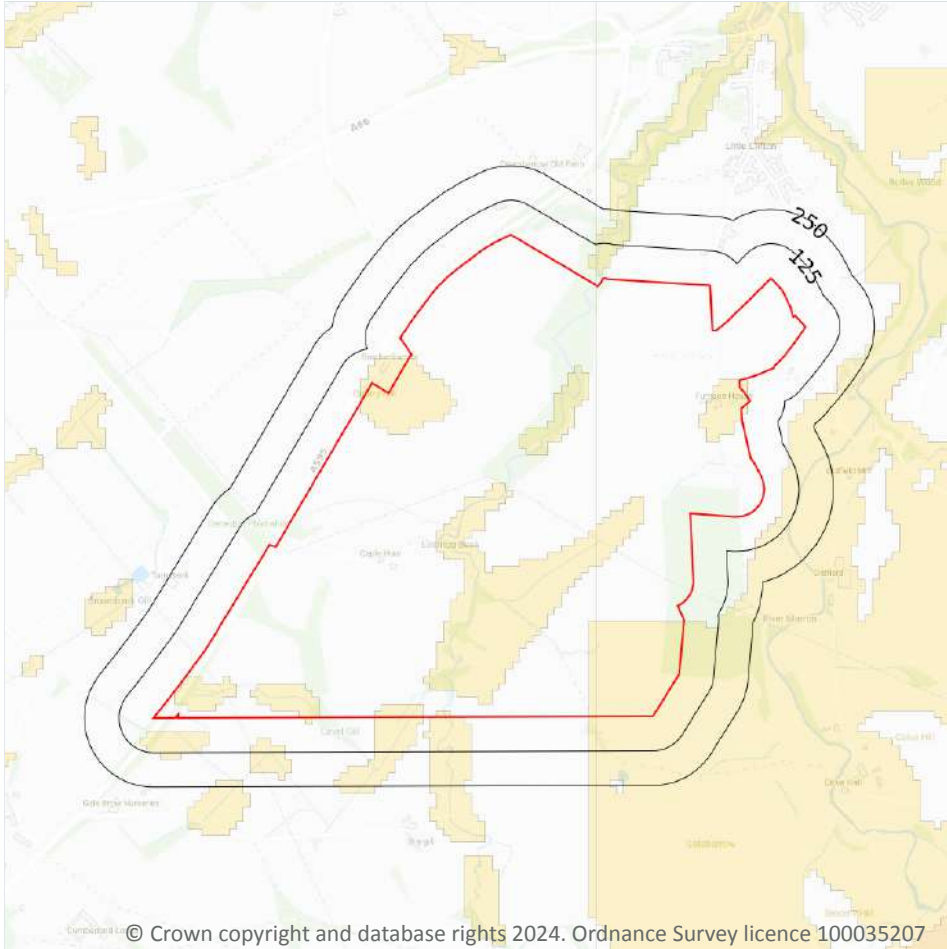
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

2

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

Features are displayed on the Radon map on [page 160 >](#)

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

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

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



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
27m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
31m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
45m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
46m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
49m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
49m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
50m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
50m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

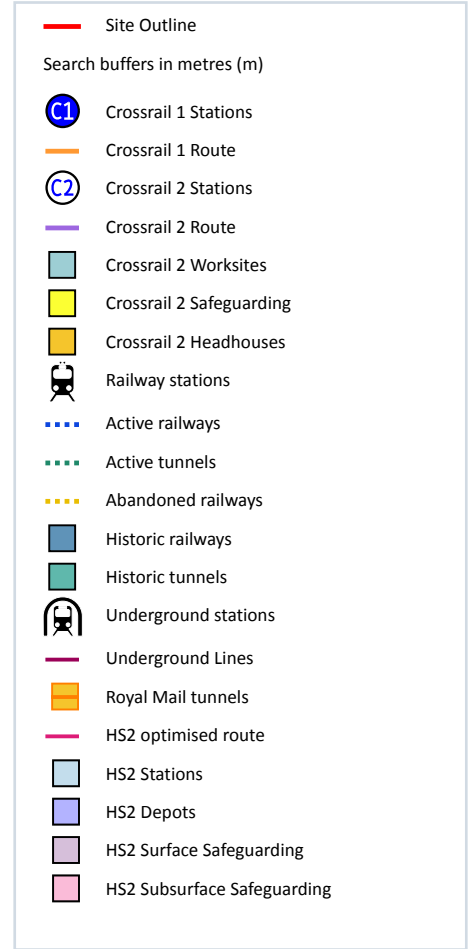
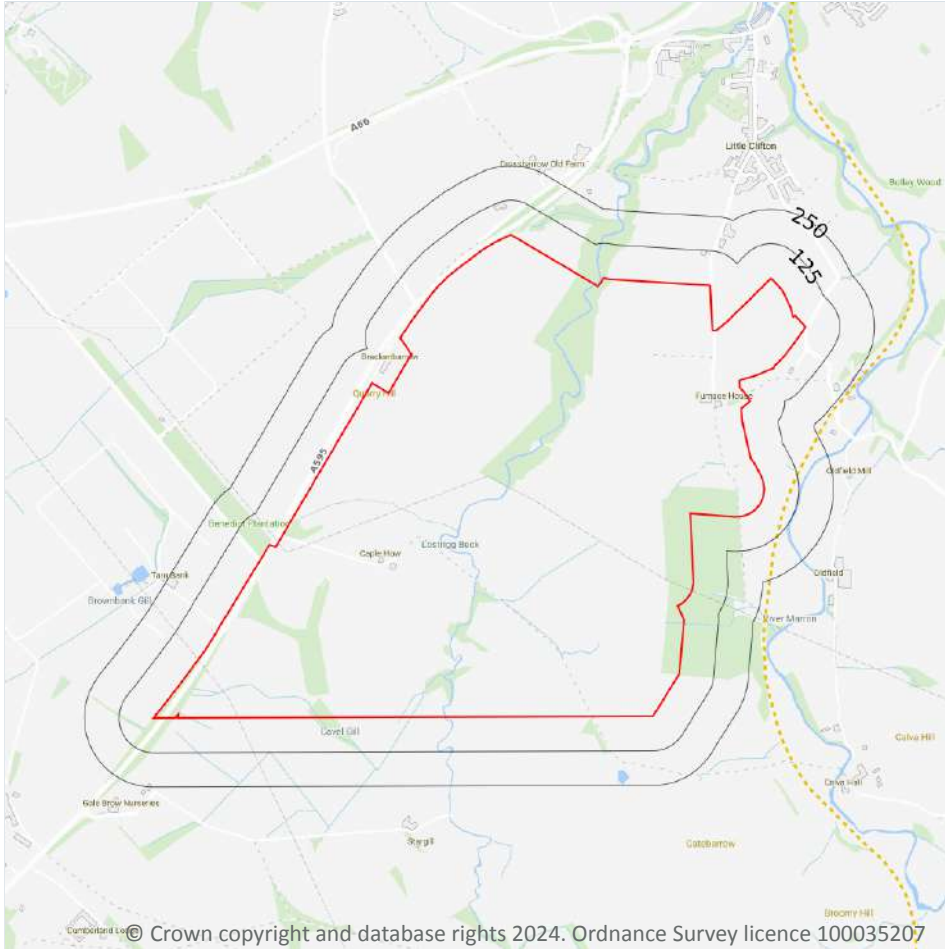
0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

1

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

Features are displayed on the Railway infrastructure and projects map on [page 169 >](#)

Location	Description
84m E	Abandoned

This data is sourced from OpenStreetMap.



22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 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.

22.9 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.

22.10 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: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



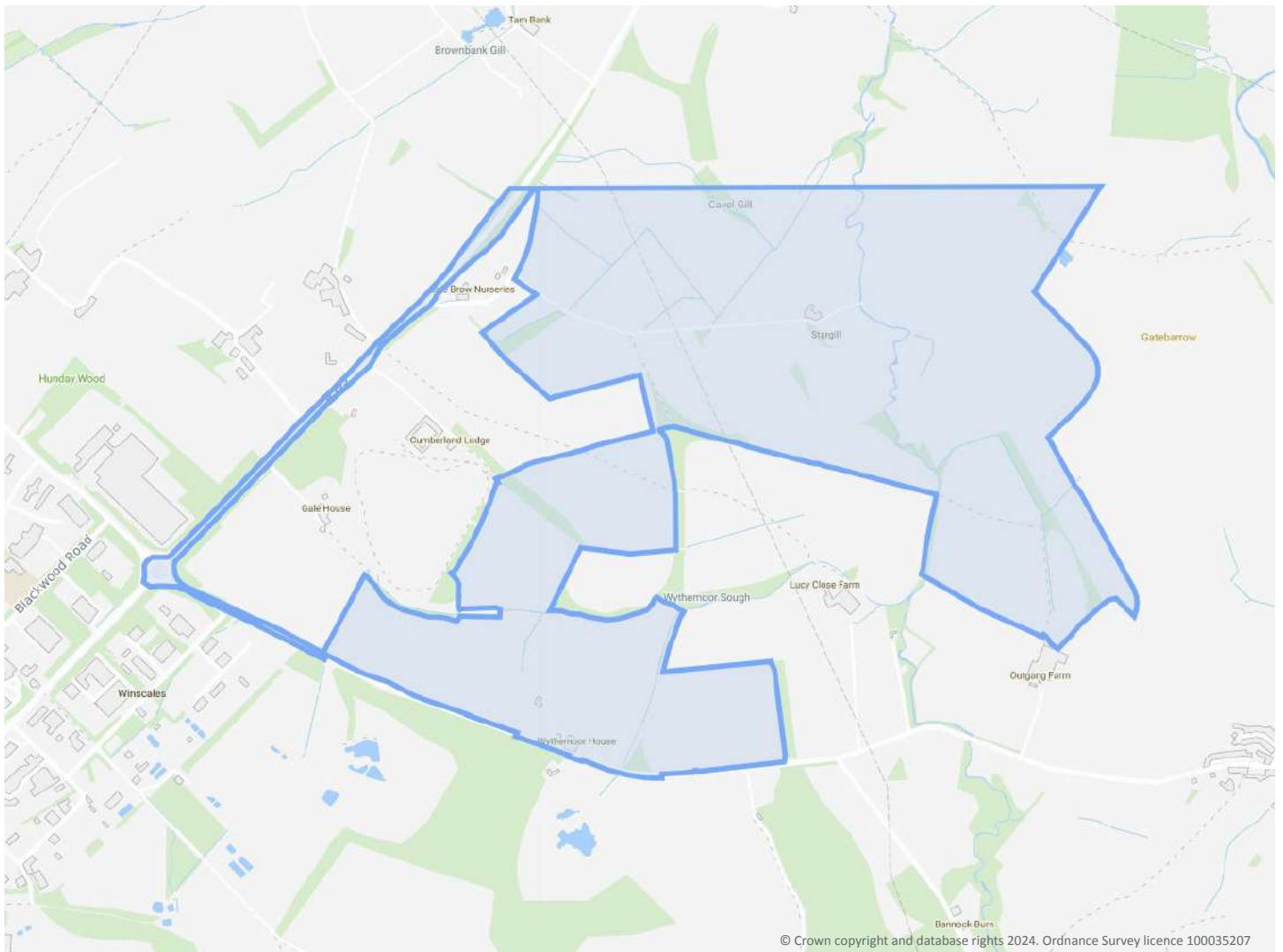
CA12978 - Cumbria

Order Details

Date: 23/04/2024
Your ref: CA12978 - Cumbria
Our Ref: GSIP-2024-14878-18377_1B

Site Details

Location: 303638 525608
Area: 233.66 ha
Authority: [Cumberland Council](#) ↗



Summary of findings

[p. 2 >](#)

Aerial image

[p. 9 >](#)

OS MasterMap site plan

N/A: >10ha

[Insight User Guide](#) ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	7	2	34	27	-
17 >	1.2 >	Historical tanks >	1	2	3	7	-
18 >	1.3 >	Historical energy features >	0	0	1	1	-
18	1.4	Historical petrol stations	0	0	0	0	-
19 >	1.5 >	Historical garages >	0	0	1	1	-
19	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
20 >	2.1 >	Historical industrial land uses >	8	2	61	41	-
25 >	2.2 >	Historical tanks >	1	2	3	7	-
25 >	2.3 >	Historical energy features >	0	0	1	2	-
26	2.4	Historical petrol stations	0	0	0	0	-
26 >	2.5 >	Historical garages >	0	0	1	1	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
27 >	3.1 >	Active or recent landfill >	0	2	0	0	-
28	3.2	Historical landfill (BGS records)	0	0	0	0	-
28	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
28 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
29 >	3.5 >	Historical waste sites >	0	0	1	1	-
29 >	3.6 >	Licensed waste sites >	0	0	1	18	-
34 >	3.7 >	Waste exemptions >	42	1	31	12	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
43 >	4.1 >	Recent industrial land uses >	2	1	18	-	-
45 >	4.2 >	Current or recent petrol stations >	0	0	0	1	-
45	4.3	Electricity cables	0	0	0	0	-
45	4.4	Gas pipelines	0	0	0	0	-
45	4.5	Sites determined as Contaminated Land	0	0	0	0	-



46	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
46	4.7	Regulated explosive sites	0	0	0	0	-
46	4.8	Hazardous substance storage/usage	0	0	0	0	-
46	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
46 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	0	12	-
49 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	0	2	-
50	4.12	Radioactive Substance Authorisations	0	0	0	0	-
50 >	4.13 >	Licensed Discharges to controlled waters >	7	1	4	2	-
52	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
52 >	4.15 >	Pollutant release to public sewer >	0	0	0	1	-
53	4.16	List 1 Dangerous Substances	0	0	0	0	-
53	4.17	List 2 Dangerous Substances	0	0	0	0	-
53 >	4.18 >	Pollution Incidents (EA/NRW) >	0	2	14	3	-
55	4.19	Pollution inventory substances	0	0	0	0	-
56	4.20	Pollution inventory waste transfers	0	0	0	0	-
56 >	4.21 >	Pollution inventory radioactive waste >	0	0	0	2	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
62 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
64 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
72	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
72	5.5	Groundwater vulnerability- local information	None (within 0m)				
73 >	5.6 >	Groundwater abstractions >	0	0	0	1	1
74 >	5.7 >	Surface water abstractions >	0	0	0	0	9
77	5.8	Potable abstractions	0	0	0	0	0
77	5.9	Source Protection Zones	0	0	0	0	-
77	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
78 >	6.1 >	Water Network (OS MasterMap) >	41	11	15	-	-



84 >	6.2 >	Surface water features >	1	9	16	-	-
84 >	6.3 >	WFD Surface water body catchments >	4	-	-	-	-
85 >	6.4 >	WFD Surface water bodies >	1	0	0	-	-
85 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
86 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
87	7.2	Historical Flood Events	0	0	0	-	-
87	7.3	Flood Defences	0	0	0	-	-
87	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
87	7.5	Flood Storage Areas	0	0	0	-	-
88 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
89 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
90 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
92 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
93 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	1	0
94	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
94 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	1	0
95	10.4	Special Protection Areas (SPA)	0	0	0	0	0
95	10.5	National Nature Reserves (NNR)	0	0	0	0	0
95	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
95 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	10
96	10.8	Biosphere Reserves	0	0	0	0	0
96	10.9	Forest Parks	0	0	0	0	0
96	10.10	Marine Conservation Zones	0	0	0	0	0
97	10.11	Green Belt	0	0	0	0	0
97	10.12	Proposed Ramsar sites	0	0	0	0	0



97	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
97	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
97	10.15	Nitrate Sensitive Areas	0	0	0	0	0
98	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
99 >	10.17 >	SSSI Impact Risk Zones >	13	-	-	-	-
107 >	10.18 >	SSSI Units >	0	0	0	1	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
108	11.1	World Heritage Sites	0	0	0	-	-
109	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
109	11.3	National Parks	0	0	0	-	-
109 >	11.4 >	Listed Buildings >	0	0	1	-	-
110	11.5	Conservation Areas	0	0	0	-	-
110	11.6	Scheduled Ancient Monuments	0	0	0	-	-
110	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
111 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
112 >	12.2 >	Open Access Land >	2	0	0	-	-
112 >	12.3 >	Tree Felling Licences >	16	4	7	-	-
114 >	12.4 >	Environmental Stewardship Schemes >	8	1	3	-	-
114 >	12.5 >	Countryside Stewardship Schemes >	9	2	3	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
116 >	13.1 >	Priority Habitat Inventory >	18	6	18	-	-
119 >	13.2 >	Habitat Networks >	11	0	2	-	-
119 >	13.3 >	Open Mosaic Habitat >	1	0	0	-	-
120	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
121 >	14.1 >	10k Availability >	Identified (within 500m)				
122	14.2	Artificial and made ground (10k)	0	0	0	0	-
123	14.3	Superficial geology (10k)	0	0	0	0	-



123	14.4	Landslip (10k)	0	0	0	0	-
124	14.5	Bedrock geology (10k)	0	0	0	0	-
124	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
125 >	15.1 >	50k Availability >	Identified (within 500m)				
126 >	15.2 >	Artificial and made ground (50k) >	5	7	1	3	-
127 >	15.3 >	Artificial ground permeability (50k) >	8	7	-	-	-
129 >	15.4 >	Superficial geology (50k) >	12	2	1	5	-
130 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
131	15.6	Landslip (50k)	0	0	0	0	-
131	15.7	Landslip permeability (50k)	None (within 50m)				
132 >	15.8 >	Bedrock geology (50k) >	16	2	5	8	-
134 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
135 >	15.10 >	Bedrock faults and other linear features (50k) >	40	14	14	35	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
140 >	16.1 >	BGS Boreholes >	26	18	38	-	-
Page	Section	Natural ground subsidence >					
145 >	17.1 >	Shrink swell clays >	Low (within 50m)				
147 >	17.2 >	Running sands >	Low (within 50m)				
149 >	17.3 >	Compressible deposits >	High (within 50m)				
151 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
152 >	17.5 >	Landslides >	Low (within 50m)				
154 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
156 >	18.1 >	BritPits >	3	4	6	2	-
159 >	18.2 >	Surface ground workings >	13	5	38	-	-
162 >	18.3 >	Underground workings >	1	0	3	3	5
162	18.4	Underground mining extents	0	0	0	0	-
163	18.5	Historical Mineral Planning Areas	0	0	0	0	-



163 >	18.6 >	Non-coal mining >	23	3	7	12	16
170	18.7	JPB mining areas	None (within 0m)				
170	18.8	The Coal Authority non-coal mining	0	0	0	0	-
170 >	18.9 >	Researched mining >	0	0	0	2	-
171	18.10	Mining record office plans	0	0	0	0	-
171	18.11	BGS mine plans	0	0	0	0	-
171 >	18.12 >	Coal mining >	Identified (within 0m)				
172	18.13	Brine areas	None (within 0m)				
172	18.14	Gypsum areas	None (within 0m)				
172	18.15	Tin mining	None (within 0m)				
172	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
173	19.1	Natural cavities	0	0	0	0	-
174	19.2	Mining cavities	0	0	0	0	0
174	19.3	Reported recent incidents	0	0	0	0	-
174 >	19.4 >	Historical incidents >	0	0	0	3	-
175	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
176 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
178 >	21.1 >	BGS Estimated Background Soil Chemistry >	224	54	-	-	-
188	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
188	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
189	22.1	Underground railways (London)	0	0	0	-	-
189	22.2	Underground railways (Non-London)	0	0	0	-	-
190	22.3	Railway tunnels	0	0	0	-	-
190 >	22.4 >	Historical railway and tunnel features >	0	0	4	-	-
190	22.5	Royal Mail tunnels	0	0	0	-	-



191	22.6	Historical railways	0	0	0	-	-
191	22.7	Railways	0	0	0	-	-
191	22.8	Crossrail 1	0	0	0	0	-
191	22.9	Crossrail 2	0	0	0	0	-
191	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 17/07/2021

Site Area: 233.66ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

Recent site history - 2019 aerial photograph



Capture Date: 24/08/2019

Site Area: 233.66ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024



Recent site history - 2016 aerial photograph



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Capture Date: 16/08/2016

Site Area: 233.66ha



Contact us with any questions at:

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01273 257 755

Date: 23 April 2024



Recent site history - 2008 aerial photograph



Capture Date: 05/10/2008

Site Area: 233.66ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024



Recent site history - 2000 aerial photograph



Capture Date: 16/06/2000

Site Area: 233.66ha



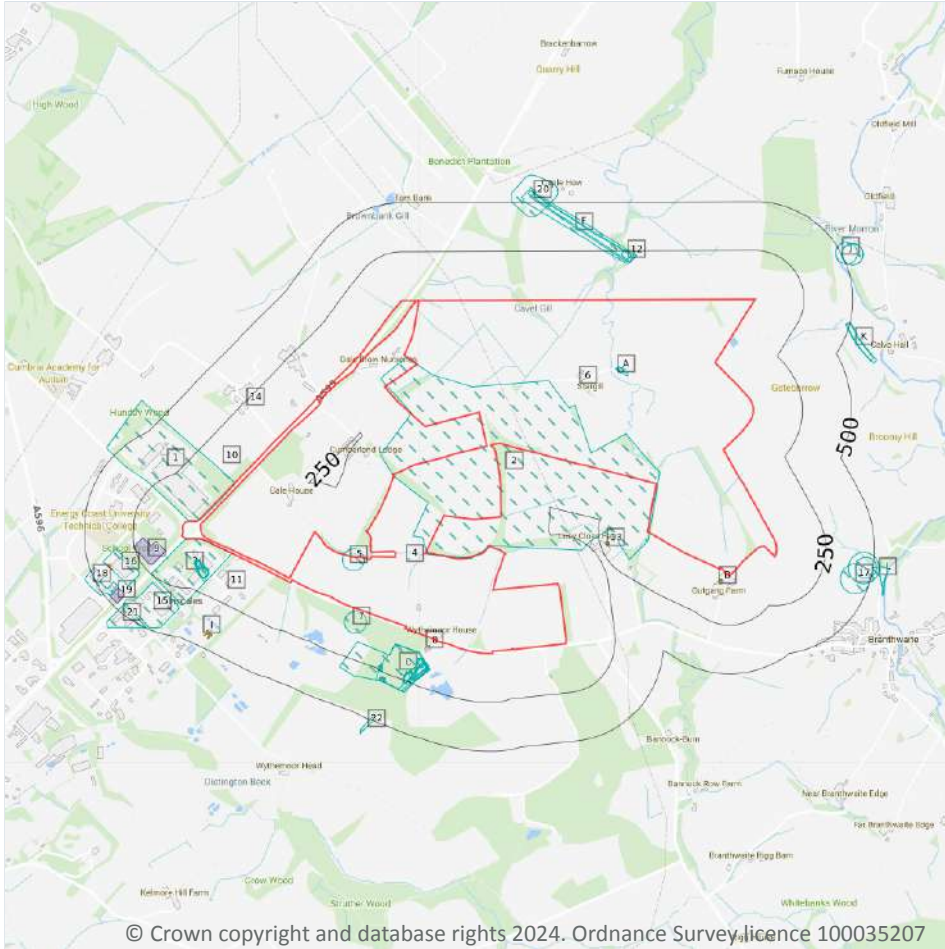
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

1 Past land use



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

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1.1 Historical industrial land uses

Records within 500m **70**

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 14](#) >

ID	Location	Land use	Dates present	Group ID
1	On site	Unspecified Factory	1981	552208

ID	Location	Land use	Dates present	Group ID
2	On site	Opencast Workings	1981	556607
3	On site	Unspecified Commercial/Industrial	1981	576970
4	On site	Old Air Shaft	1898	586502
5	On site	Unspecified Old Shaft	1898	587013
A	On site	Unspecified Pit	1947 - 1951	632326
A	On site	Unspecified Pit	1981	636437
7	12m SW	Unspecified Disused Pit	1898	548681
B	36m SE	Unspecified Tank	1992	551140
C	91m SW	Colliery	1938	636018
D	93m SW	Colliery	1923	605630
E	102m W	Unspecified Pits	1923	599465
E	104m W	Unspecified Pits	1938	597082
E	110m W	Unspecified Old Quarry	1898	575202
E	110m W	Unspecified Pit	1947	625807
E	111m W	Unspecified Pits	1951	600787
C	112m SW	Refuse Heap	1938	630993
C	112m SW	Refuse Heap	1938	636772
C	114m SW	Refuse Heap	1947	610363
C	115m SW	Refuse Heap	1923	611711
C	117m SW	Refuse Heap	1951	618717
C	120m SW	Unspecified Heap	1967	561961
C	125m SW	Mineral Railway Sidings	1938	589919
C	128m SW	Mineral Railway Sidings	1923	605207
E	130m W	Unspecified Pit	1864	637550
F	182m NE	Rifle Range	1926 - 1947	597994
C	188m SW	Shaft	1923	597363
F	191m NE	Rifle Range	1951	612773
F	194m NE	Rifle Range	1923	604636



ID	Location	Land use	Dates present	Group ID
12	197m NE	Disused Butts	1981	556616
C	202m SW	Refuse Heap	1923	618983
C	202m SW	Refuse Heap	1923	620789
C	202m SW	Refuse Heap	1923	632830
C	202m SW	Refuse Heap	1923	634107
C	203m SW	Unspecified Shaft	1938	609366
C	214m SW	Refuse Heap	1951	611432
D	215m SW	Unspecified Old Shaft	1898	587012
D	221m SW	Unspecified Old Shaft	1947	587011
D	221m SW	Old Coal Shaft	1938	618471
D	221m SW	Old Coal Shaft	1923	616894
D	224m SW	Old Coal Shaft	1951	595862
D	227m SW	Unspecified Heap	1898	561960
D	230m SW	Refuse Heap	1923	619499
D	272m SW	Refuse Heap	1938	609206
D	273m SW	Unspecified Shaft	1938	595064
D	273m SW	Shaft	1923	618529
D	273m SW	Unspecified Old Shaft	1947	621719
D	274m SW	Refuse Heap	1947	601593
D	274m SW	Refuse Heap	1923	591327
D	274m SW	Refuse Heap	1923	595283
D	277m SW	Unspecified Old Shaft	1951	598350
D	278m SW	Refuse Heap	1951	630729
15	280m W	Unspecified Factory	1981	552209
16	288m W	Unspecified Factory	1981	552206
17	350m SE	Disused Colliery	1951	556575
G	376m E	Unspecified Level	1951	577214
G	411m E	Unspecified Levels	1927	606150



ID	Location	Land use	Dates present	Group ID
18	416m W	Unspecified Factory	1981	552207
20	426m N	Disused Rifle Range	1981	567552
21	459m W	Unspecified Disused Factory	1981	555627
G	459m E	Unspecified Levels	1927	618700
J	470m NE	Unspecified Hole	1864	630218
22	478m SW	Unspecified Heap	1951	561956
K	482m NE	Cuttings	1951	610010
K	483m NE	Cuttings	1923 - 1926	605857
J	495m NE	Unspecified Hole	1947	609770
J	495m NE	Unspecified Hole	1898	629321
L	495m E	Disused Colliery	1927	601659
L	496m E	Disused Colliery	1927	608469
L	497m E	Disused Colliery	1923	600707

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

13

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

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
6	On site	Tank or Trough	1866	75693
8	41m SW	Tank or Trough	1866	75604
B	42m SE	Unspecified Tank	1988	73084
10	120m W	Tank or Trough	1866	75703
13	205m SE	Unspecified Tank	1988	73085



ID	Location	Land use	Dates present	Group ID
14	240m W	Tank or Trough	1866	75699
H	399m W	Tanks	1982	77528
H	399m W	Tanks	1999	77389
I	410m SW	Unspecified Tank	1998	72918
I	414m SW	Tanks	1998	75056
I	420m SW	Tanks	1998	75057
I	432m SW	Tanks	1998	75055
I	437m SW	Tanks	1998	75058

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

2

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

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
11	156m SW	Electricity Substation	1998	42157
H	395m W	Electricity Substation	1982 - 1999	43535

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

2

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

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
9	113m W	Garage	1998	13625
19	418m W	Garage	1982	13626

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

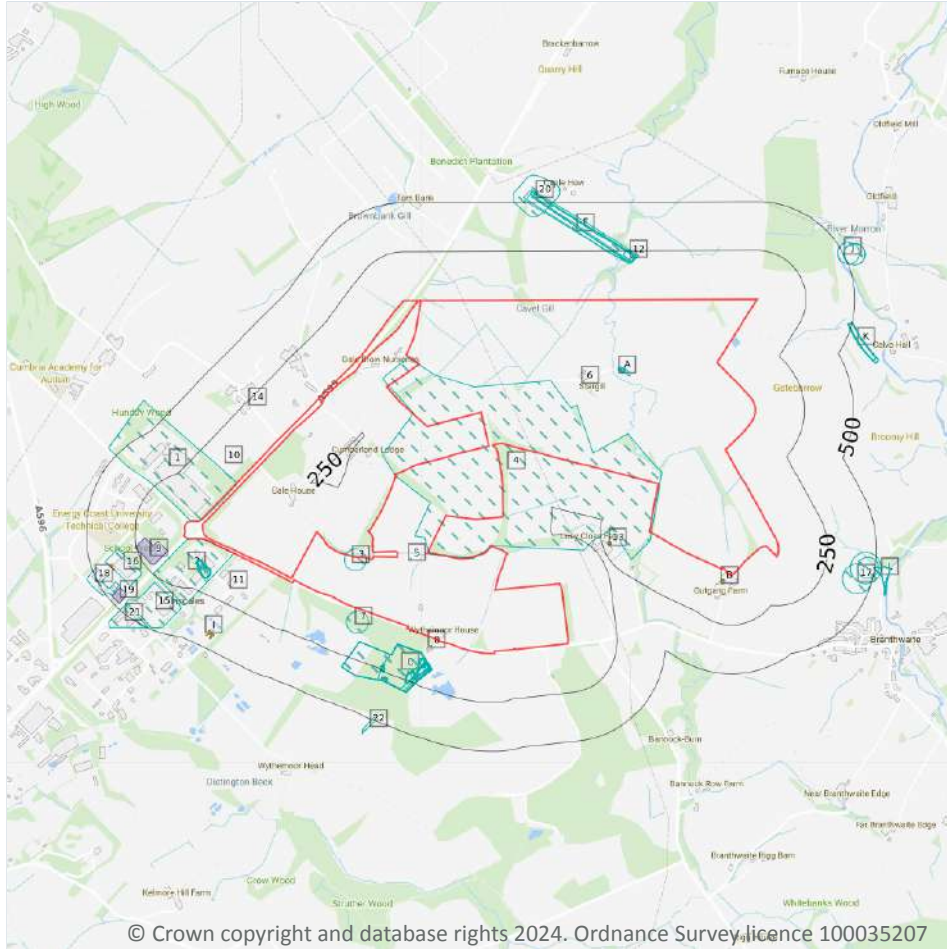
0

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

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



2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m	112
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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 20 >](#)

ID	Location	Land Use	Date	Group ID
1	On site	Unspecified Factory	1981	552208
2	On site	Unspecified Commercial/Industrial	1981	576970
3	On site	Unspecified Old Shaft	1898	587013

ID	Location	Land Use	Date	Group ID
4	On site	Opencast Workings	1981	556607
5	On site	Old Air Shaft	1898	586502
A	On site	Unspecified Pit	1947	632326
A	On site	Unspecified Pit	1951	632326
A	On site	Unspecified Pit	1981	636437
7	12m SW	Unspecified Disused Pit	1898	548681
B	36m SE	Unspecified Tank	1992	551140
C	91m SW	Colliery	1938	636018
C	91m SW	Colliery	1938	636018
D	93m SW	Colliery	1923	605630
D	93m SW	Colliery	1923	605630
D	93m SW	Colliery	1923	605630
D	93m SW	Colliery	1923	605630
E	102m W	Unspecified Pits	1923	599465
E	102m W	Unspecified Pits	1923	599465
E	102m W	Unspecified Pits	1923	599465
E	102m W	Unspecified Pits	1923	599465
E	104m W	Unspecified Pits	1938	597082
E	104m W	Unspecified Pits	1938	597082
E	110m W	Unspecified Pit	1947	625807
E	110m W	Unspecified Old Quarry	1898	575202
E	111m W	Unspecified Pits	1951	600787
C	112m SW	Refuse Heap	1938	630993
C	112m SW	Refuse Heap	1938	636772
C	114m SW	Refuse Heap	1947	610363
C	115m SW	Refuse Heap	1923	611711
C	115m SW	Refuse Heap	1923	611711
C	115m SW	Refuse Heap	1923	611711



ID	Location	Land Use	Date	Group ID
C	115m SW	Refuse Heap	1923	611711
C	117m SW	Refuse Heap	1951	618717
C	120m SW	Unspecified Heap	1967	561961
C	125m SW	Mineral Railway Sidings	1938	589919
C	128m SW	Mineral Railway Sidings	1923	605207
C	128m SW	Mineral Railway Sidings	1923	605207
C	128m SW	Mineral Railway Sidings	1923	605207
C	128m SW	Mineral Railway Sidings	1923	605207
E	130m W	Unspecified Pit	1864	637550
F	182m NE	Rifle Range	1926	597994
C	188m SW	Shaft	1923	597363
C	188m SW	Shaft	1923	597363
C	188m SW	Shaft	1923	597363
C	188m SW	Shaft	1923	597363
F	190m NE	Rifle Range	1947	597994
F	191m NE	Rifle Range	1951	612773
F	194m NE	Rifle Range	1923	604636
F	194m NE	Rifle Range	1923	604636
F	194m NE	Rifle Range	1923	604636
12	197m NE	Disused Butts	1981	556616
C	202m SW	Refuse Heap	1923	634107
C	202m SW	Refuse Heap	1923	632830
C	202m SW	Refuse Heap	1923	620789
C	202m SW	Refuse Heap	1923	618983
C	203m SW	Unspecified Shaft	1938	609366
C	203m SW	Unspecified Shaft	1938	609366
C	214m SW	Refuse Heap	1951	611432
D	215m SW	Unspecified Old Shaft	1898	587012



ID	Location	Land Use	Date	Group ID
D	221m SW	Unspecified Old Shaft	1947	587011
D	221m SW	Old Coal Shaft	1938	618471
D	221m SW	Old Coal Shaft	1923	616894
D	221m SW	Old Coal Shaft	1923	616894
D	221m SW	Old Coal Shaft	1923	616894
D	221m SW	Old Coal Shaft	1923	616894
D	224m SW	Old Coal Shaft	1951	595862
D	227m SW	Unspecified Heap	1898	561960
D	230m SW	Refuse Heap	1923	619499
D	230m SW	Refuse Heap	1923	619499
D	230m SW	Refuse Heap	1923	619499
D	230m SW	Refuse Heap	1923	619499
D	272m SW	Refuse Heap	1938	609206
D	272m SW	Refuse Heap	1938	609206
D	273m SW	Unspecified Shaft	1938	595064
D	273m SW	Unspecified Shaft	1938	595064
D	273m SW	Shaft	1923	618529
D	273m SW	Shaft	1923	618529
D	273m SW	Shaft	1923	618529
D	273m SW	Shaft	1923	618529
D	273m SW	Unspecified Old Shaft	1947	621719
D	274m SW	Refuse Heap	1947	601593
D	274m SW	Refuse Heap	1923	595283
D	274m SW	Refuse Heap	1923	591327
D	274m SW	Refuse Heap	1923	591327
D	274m SW	Refuse Heap	1923	591327
D	277m SW	Unspecified Old Shaft	1951	598350
D	278m SW	Refuse Heap	1951	630729



ID	Location	Land Use	Date	Group ID
15	280m W	Unspecified Factory	1981	552209
16	288m W	Unspecified Factory	1981	552206
17	350m SE	Disused Colliery	1951	556575
G	376m E	Unspecified Level	1951	577214
G	411m E	Unspecified Levels	1927	606150
18	416m W	Unspecified Factory	1981	552207
20	426m N	Disused Rifle Range	1981	567552
21	459m W	Unspecified Disused Factory	1981	555627
G	459m E	Unspecified Levels	1927	618700
G	459m E	Unspecified Levels	1927	618700
J	470m NE	Unspecified Hole	1864	630218
22	478m SW	Unspecified Heap	1951	561956
K	482m NE	Cuttings	1951	610010
K	483m NE	Cuttings	1923	605857
K	483m NE	Cuttings	1923	605857
K	483m NE	Cuttings	1923	605857
K	485m NE	Cuttings	1926	605857
J	495m NE	Unspecified Hole	1947	609770
J	495m NE	Unspecified Hole	1898	629321
L	495m E	Disused Colliery	1927	601659
L	496m E	Disused Colliery	1927	608469
L	496m E	Disused Colliery	1927	608469
L	497m E	Disused Colliery	1923	600707
L	497m E	Disused Colliery	1923	600707
L	497m E	Disused Colliery	1923	600707

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m

13

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 20 >](#)

ID	Location	Land Use	Date	Group ID
6	On site	Tank or Trough	1866	75693
8	41m SW	Tank or Trough	1866	75604
B	42m SE	Unspecified Tank	1988	73084
10	120m W	Tank or Trough	1866	75703
13	205m SE	Unspecified Tank	1988	73085
14	240m W	Tank or Trough	1866	75699
H	399m W	Tanks	1982	77528
H	399m W	Tanks	1999	77389
I	410m SW	Unspecified Tank	1998	72918
I	414m SW	Tanks	1998	75056
I	420m SW	Tanks	1998	75057
I	432m SW	Tanks	1998	75055
I	437m SW	Tanks	1998	75058

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

3

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

Features are displayed on the Past land use - un-grouped map on [page 20 >](#)

ID	Location	Land Use	Date	Group ID
11	156m SW	Electricity Substation	1998	42157



ID	Location	Land Use	Date	Group ID
H	395m W	Electricity Substation	1999	43535
H	395m W	Electricity Substation	1982	43535

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

2

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'.

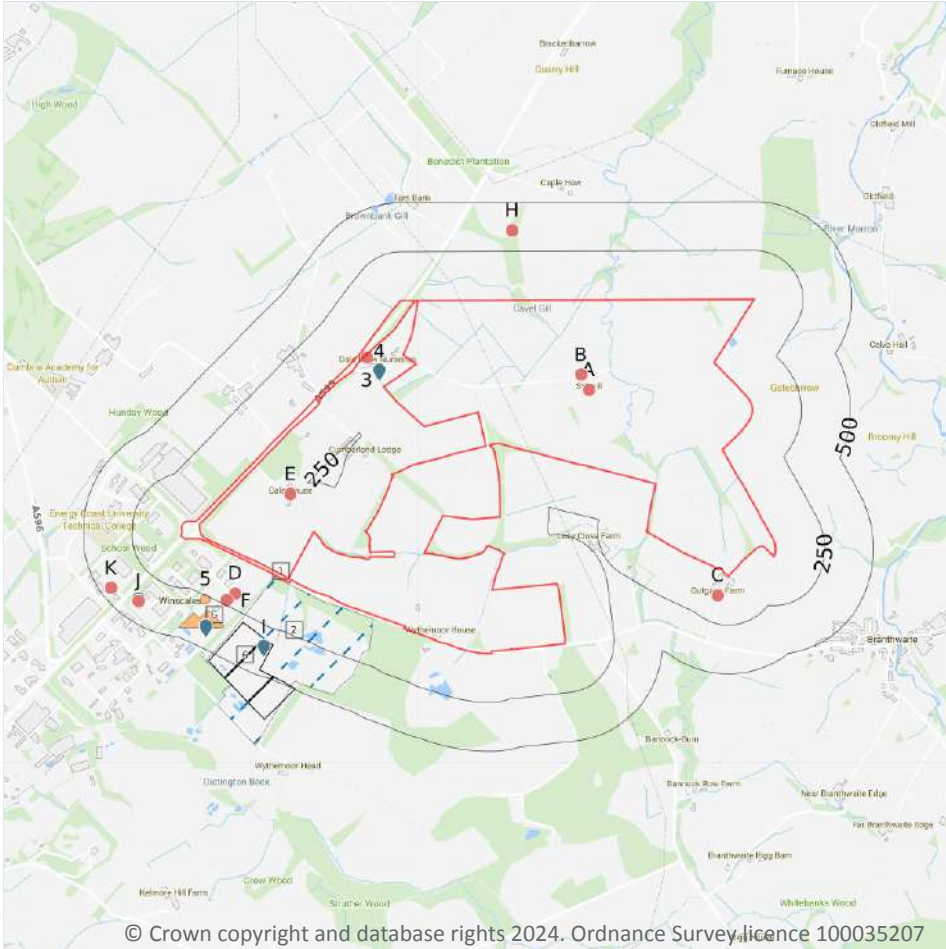
Features are displayed on the Past land use - un-grouped map on [page 20](#) >

ID	Location	Land Use	Date	Group ID
9	113m W	Garage	1998	13625
19	418m W	Garage	1982	13626

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Active or recent landfill
- Historical landfill (EA/NRW)
- Historical waste sites
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m **2**

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation. Features are displayed on the Waste and landfill map on [page 27](#) >

ID	Location	Details
1	3m SW	<p>Operator: Fcc Recycling (Uk) Limited Site Address: Lillyhall Stage 3 Landfill Site, Lillyhall Stage 3 Landfill Site Epr/gp3037sj, Joseph Noble Road, Winscales, South Yorkshire, CA14 4JH</p> <p>WML Number: 0 EPR Reference: - Landfill type: Waste Landfilling; >10 T/D With Capacity >25,000T Excluding Inert Waste - 5.2 A(1) a) Status: Effective IPPC Reference: - EPR Number: EPR/GP3037SJ</p>



ID	Location	Details	
2	9m SW	Operator: Fcc Recycling (Uk) Limited Site Address: Lillyhall Stage 3 Landfill Site, Lillyhall Stage 3 Landfill Site Epr/gp3037sj, Joseph Noble Road, Winscales, South Yorkshire, CA14 4JH	WML Number: 0 EPR Reference: - Landfill type: Waste Landfilling; >10 T/D With Capacity >25,000T Excluding Inert Waste - 5.2 A(1) a Status: Effective IPPC Reference: - EPR Number: EPR/GP3037SJ

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

3.2 Historical landfill (BGS records)

Records within 500m	0
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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
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Landfill sites identified from Local Authority records and high detail historical mapping.

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	1
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Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on [page 27 >](#)

ID	Location	Details		
6	289m SW	Site Address: Lillyhall Landfill Phase 3, Workington, Lillyhall, Cumbria Licence Holder Address: Joseph Noble Road, Workington, Lillyhall, Cumbria	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 22/05/1995 Licence Surrender: -	Operator: Alco Waste Management Ltd Licence Holder: Alco Waste Management Ltd First Recorded - Last Recorded: -

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

3.5 Historical waste sites

Records within 500m

2

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 27 >](#)

ID	Location	Address	Further Details	Date
5	244m SW	Site Address: Land to north-west of Highways, Joseph Noble Road, Lillyhall Industrial Estate, Workington, Cumbria, CA14 4JX	Type of Site: Waste Recycling Centre Planning application reference: 2/13/9003 Description: Scheme comprises construction of household waste recycling site with associated works and modular building. The associated works include sewer systems, landscaping, infrastructure, enabling works, cable laying and access roads. Data source: Historic Planning Application Data Type: Point	30/07/2013
G	311m SW	Site Address: N/A	Type of Site: Waste Treatment Centre Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1998

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

3.6 Licensed waste sites

Records within 500m

19

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

Features are displayed on the Waste and landfill map on [page 27 >](#)

ID	Location	Details		
4	76m NW	Site Name: Gale Brow, Winscales Site Address: Land / Premises At, Gale Brow, Winscales, Workington, Cumbria, CA14 4YZ Correspondence Address: -	Type of Site: Incinerator Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 656853 EPR reference: EA/EPR/FP3198EW Operator: Alan Seggie Waste Management licence No: 100397 Annual Tonnage: 438	Issue Date: 31/07/2008 Effective Date: 31/07/2008 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked



ID	Location	Details		
I	357m SW	Site Name: Lillyhall Landfill Phase 3 Site Address: Lillyhall Landfill Phase 3, Lillyhall, Workington, Cumbria, CA14 4JP Correspondence Address: -	Type of Site: Non Haz (SNRHW) LF Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC002 EPR reference: EA/EPR/EP3693ZZ/A001 Operator: Waste Recycling Ltd Waste Management licence No: 57288 Annual Tonnage: 30000	Issue Date: 22/05/1995 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: To PPC
I	357m SW	Site Name: Lillyhall Landfill Phase 3 Site Address: Lillyhall Landfill Phase 3, Lillyhall, Workington, Cumbria, CA14 4JP Correspondence Address: -	Type of Site: Non Haz (SNRHW) LF Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 630558 EPR reference: EA/EPR/EP3693ZZ Operator: Fcc Recycling (Uk) Limited Waste Management licence No: 57288 Annual Tonnage: 30000	Issue Date: 22/05/1995 Effective Date: 22/05/1995 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired
I	357m SW	Site Name: Lillyhall Landfill Phase 3 Site Address: Lillyhall Landfill Phase 3, Lillyhall, Workington, Cumbria, CA14 4JP Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JH	Type of Site: - Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC002 EPR reference: - Operator: Alco Waste Management Ltd Waste Management licence No: 57288 Annual Tonnage: 30000	Issue Date: 22/05/1995 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: IPPC
I	357m SW	Site Name: Lillyhall Landfill Phase 3 Site Address: Lillyhall Landfill Phase 3, Lillyhall, Workington, Cumbria, CA14 4JP Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JH	Type of Site: Co-Disposal Landfill Site Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC002 EPR reference: - Operator: Alco Waste Management Ltd Waste Management licence No: 57288 Annual Tonnage: 30000	Issue Date: 22/05/1995 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: IPPC



ID	Location	Details		
I	357m SW	Site Name: Lillyhall Landfill Phase 3 Site Address: Lillyhall Landfill Phase 3, Lillyhall, Workington, Cumbria, CA14 4JP Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JX	Type of Site: Co-Disposal Landfill Site Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC002 EPR reference: - Operator: Alco Waste Management Ltd Waste Management licence No: 57288 Annual Tonnage: 30000	Issue Date: 22/05/1995 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
I	357m SW	Site Name: Lillyhall Landfill Phase 3 Site Address: Lillyhall Landfill Phase 3, Lillyhall, Workington, Cumbria, CA14 4JP Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JH	Type of Site: Co-Disposal Landfill Site Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC002 EPR reference: - Operator: Waste Recycling Ltd Waste Management licence No: 57288 Annual Tonnage: 30000	Issue Date: 22/05/1995 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: IPPC
J	398m W	Site Name: Cumbria Recycling Ltd Site Address: Unit 4, Joseph Noble Road, Lillyhall (East) Ind Est, Workington, Cumbria, CA14 4JX Correspondence Address: -	Type of Site: 75kte WEEE Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 646054 EPR reference: EA/EPR/AB3532AA Operator: Cumbria Recycling Limited Waste Management licence No: 103040 Annual Tonnage: 0	Issue Date: 20/12/2012 Effective Date: 20/12/2012 Modified: - Surrendered Date: 20/12/2012 Expiry Date: - Cancelled Date: - Status: Surrendered
G	402m SW	Site Name: Waste Management Centre Stage 2 Site Address: Waste Mgmt Centre Ext Stage 2, Lillyhall, Workington, Cumbria, CA14 4JX Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JX	Type of Site: Physico-Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC005 EPR reference: - Operator: Alco Waste Management Ltd Waste Management licence No: 57300 Annual Tonnage: 0	Issue Date: 23/10/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued



ID	Location	Details		
G	402m SW	Site Name: Waste Management Centre Stage 2 Site Address: Waste Mgmt Centre Extension, Lillyhall, Workington, Cumbria, CA14 4JH Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JH	Type of Site: Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC005 EPR reference: - Operator: Alco Waste Management Ltd Waste Management licence No: 57300 Annual Tonnage: 0	Issue Date: 23/10/1996 Effective Date: - Modified: 14/01/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
G	402m SW	Site Name: Waste Management Centre Site Address: Waste Management Centre, Lillyhall, Workington, Cumbria, CA14 4JH Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JH	Type of Site: Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC006 EPR reference: - Operator: Alco Waste Management Ltd Waste Management licence No: 57234 Annual Tonnage: 0	Issue Date: 17/11/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
G	402m SW	Site Name: Waste Management Centre Stage 1 Site Address: Waste Management Centre Stage 1, Lillyhall, Workington, Cumbria, CA14 4JX Correspondence Address: Dixon House, Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JX	Type of Site: Physico-Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC006 EPR reference: - Operator: Alco Waste Management Ltd Waste Management licence No: 57234 Annual Tonnage: 0	Issue Date: 17/11/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
G	402m SW	Site Name: Waste Management Centre Stage 2 Site Address: Waste Mgmt Centre Extension, Lillyhall, Workington, Cumbria, CA14 4JH Correspondence Address: -	Type of Site: Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAS005 EPR reference: EA/EPR/VP3293ZJ/T001 Operator: Waste Recycling Ltd Waste Management licence No: 57300 Annual Tonnage: 75000	Issue Date: 23/10/1996 Effective Date: 14/02/2006 Modified: 14/01/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred



ID	Location	Details		
G	402m SW	Site Name: Waste Management Centre Site Address: Waste Management Centre, Lillyhall, Workington, Cumbria, CA14 4JH Correspondence Address: -	Type of Site: Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAS004 EPR reference: EA/EPR/CP3093ZQ/T001 Operator: Waste Recycling Ltd Waste Management licence No: 57234 Annual Tonnage: 75000	Issue Date: 17/11/1993 Effective Date: 14/02/2006 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred
G	402m SW	Site Name: Waste Management Centre Stage 2 Site Address: Waste Mgmt Centre Extension, Lillyhall, Workington, Cumbria, CA14 4JH Correspondence Address: Ground Floor West, 900, Pavilion Road, Northampton Bus Park, Northampton, Northamptonshir, NN4 7RG	Type of Site: Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAS005 EPR reference: - Operator: Waste Recycling Limited Waste Management licence No: 57300 Annual Tonnage: 0	Issue Date: 23/10/1996 Effective Date: 14/02/2006 Modified: 14/01/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred
G	402m SW	Site Name: Lillyhall Landfill Site Site Address: Lillyhall Landfill Site, John Noble Road, Workington, Cumbria, CA14 4JH Correspondence Address: -	Type of Site: Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAS005 EPR reference: EA/EPR/VP3293ZJ/V002 Operator: F C C Recycling (U K) Limited Waste Management licence No: 57300 Annual Tonnage: 75000	Issue Date: 23/10/1996 Effective Date: 14/02/2006 Modified: 18/10/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
G	402m SW	Site Name: Lilyhall Landfill Site - Waste Management Centre Site Address: Lilyhall Landfill Site - Waste Management Centre, Joesph Noble Road, Workington, Cumbria, CA14 4JH Correspondence Address: -	Type of Site: Chemical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAS004 EPR reference: EA/EPR/CP3093ZQ/V002 Operator: F C C Recycling (U K) Limited Waste Management licence No: 57234 Annual Tonnage: 74999	Issue Date: 17/11/1993 Effective Date: 14/02/2006 Modified: 26/10/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified



ID	Location	Details		
G	402m SW	Site Name: Lillyhall Landfill Site Site Address: Lillyhall Landfill Site, John Noble Road, Workington, Cumbria, CA14 4JH Correspondence Address: -	Type of Site: Chemical Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 633597 EPR reference: EA/EPR/VP3293ZJ Operator: Fcc Recycling (UK) Limited Waste Management licence No: 57300 Annual Tonnage: 0	Issue Date: 23/10/1996 Effective Date: 23/10/1996 Modified: - Surrendered Date: 23/10/1996 Expiry Date: - Cancelled Date: - Status: Surrendered
G	402m SW	Site Name: Lilyhall Landfill Site - Waste Management Centre Site Address: Lilyhall Landfill Site - Waste Management Centre, Joesph Noble Road, Workington, Cumbria, CA14 4JH Correspondence Address: -	Type of Site: Chemical Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 640446 EPR reference: EA/EPR/CP3093ZQ Operator: Fcc Recycling (UK) Limited Waste Management licence No: 57234 Annual Tonnage: 0	Issue Date: 17/11/1993 Effective Date: 17/11/1993 Modified: - Surrendered Date: 17/11/1993 Expiry Date: - Cancelled Date: - Status: Surrendered

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

3.7 Waste exemptions

Records within 500m

86

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

Features are displayed on the Waste and landfill map on [page 27 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX308500	Storing waste exemption	On a farm	Storage of waste in a secure place
A	On site	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX308500	Storing waste exemption	On a farm	Storage of waste in secure containers
A	On site	STARGHYLL FARM, WINSCALES, WORKINGTON, CA14 4UZ	WEX308500	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of waste for a specified purpose
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of sludge for the purposes of re-seeding a waste water treatment plant
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of waste in construction
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Disposing of waste exemption	On a farm	Burning waste in the open
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Disposing of waste exemption	On a farm	Disposal by incineration
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of depolluted end-of-life vehicles for vehicle parts
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Use of mulch
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX308500	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Storing waste exemption	On a farm	Storage of waste in a secure place
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Storing waste exemption	On a farm	Storage of waste in secure containers
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of sludge for the purposes of re-seeding a waste water treatment plant
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of waste for a specified purpose
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Use of waste in construction
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Use of waste for a specified purpose
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of mulch
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Disposing of waste exemption	On a farm	Burning waste in the open
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Disposing of waste exemption	On a farm	Disposal by incineration



ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Use of depolluted end-of-life vehicles for vehicle parts
A	On site	STARGHYLL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX172072	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Disposing of waste exemption	On a farm	Disposal by incineration
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Disposing of waste exemption	On a farm	Burning waste in the open
A	On site	STARGILL FARM, WINSKALES, WORKINGTON, CA14 4UZ	WEX012007	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Cleaning, washing, spraying or coating relevant waste
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Aerobic composting and associated prior treatment
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Burning waste in the open
B	On site	Starghyll Farm WORKINGTON Cumbria CA14 4UZ	EPR/NH0273U C/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on agricultural land to confer benefit
3	13m NW	-	WEX330488	Using waste exemption	Not on a farm	Use of waste in construction
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX338494	Using waste exemption	On a farm	Use of waste in construction
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX338494	Using waste exemption	On a farm	Use of waste for a specified purpose
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX338494	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX338494	Disposing of waste exemption	On a farm	Burning waste in the open
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX214642	Using waste exemption	On a Farm	Use of waste in construction
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX214642	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX214642	Using waste exemption	On a Farm	Use of waste for a specified purpose
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX070463	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX070463	Using waste exemption	On a farm	Use of waste in construction
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX070463	Using waste exemption	On a farm	Use of waste for a specified purpose
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX214642	Disposing of waste exemption	On a Farm	Burning waste in the open
C	114m SE	OUTGANG FARM, BRANTHWAITE, WORKINGTON, CA14 4SX	WEX070463	Disposing of waste exemption	On a farm	Burning waste in the open
C	114m SE	Outgang Farm WORKINGTON Cumbria CA14 4SX	EPR/NE5181E N/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
C	114m SE	Outgang Farm WORKINGTON Cumbria CA14 4SX	EPR/NE5181E N/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
C	114m SE	Outgang Farm WORKINGTON Cumbria CA14 4SX	EPR/NE5181E N/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
D	177m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX095913	Storing waste exemption	Not on a farm	Storage of waste in secure containers
D	177m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX095913	Using waste exemption	Not on a farm	Use of waste in construction
D	177m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX095913	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	177m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX238477	Storing waste exemption	Not on a farm	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
D	177m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX238477	Using waste exemption	Not on a farm	Use of waste in construction
D	177m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX238477	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	225m W	GALE HOUSE FARM, WINSKALES, WORKINGTON, CA14 4JQ	WEX273322	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	225m W	GALE HOUSE FARM, WINSKALES, WORKINGTON, CA14 4JQ	WEX273322	Treating waste exemption	Not on a farm	Recovery of scrap metal
E	225m W	GALE HOUSE FARM, WINSKALES, WORKINGTON, CA14 4JQ	WEX273322	Treating waste exemption	Not on a farm	Sorting mixed waste
E	225m W	-	WEX379504	Using waste exemption	On a farm	Use of waste in construction
E	225m W	GALE HOUSE FARM, WINSKALES, WORKINGTON, CA14 4JQ	WEX107516	Using waste exemption	Not on a farm	Use of waste in construction
E	225m W	-	WEX249704	Using waste exemption	On a farm	Use of waste in construction
E	225m W	GALE HOUSE FARM WINSKALES WORKINGTON CUMBRIA CA14 4JQ	EPR/YF0631QE /A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
F	227m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX369869	Using waste exemption	Not on a farm	Use of waste in construction
F	227m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX369869	Storing waste exemption	Not on a farm	Storage of waste in secure containers



ID	Location	Site	Reference	Category	Sub-Category	Description
F	227m SW	HIGHWAYS DEPOT, JOSEPH NOBLE ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JH	WEX369869	Storing waste exemption	Not on a farm	Storage of waste in a secure place
H	355m N	-	WEX351637	Using waste exemption	On a farm	Use of waste in construction
H	355m N	-	WEX351637	Treating waste exemption	On a farm	Screening and blending of waste
J	399m W	border Cars Joseph Noble Road Workington Cumbria CA14 4JH	EPR/RF0606F M/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in secure containers
J	399m W	border Cars Joseph Noble Road Workington Cumbria CA14 4JH	EPR/RF0606F M/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
J	402m W	Unit 2A, HALLWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JR	WEX157077	Storing waste exemption	Not on a Farm	Storage of waste in a secure place
J	402m W	HALLWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JR	WEX128923	Storing waste exemption	Not on a farm	Storage of waste in a secure place
J	402m W	HALLWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JR	WEX094417	Treating waste exemption	Not on a farm	Recovery of scrap metal
J	402m W	HALLWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JR	WEX094416	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
K	450m W	BLACKWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JW	WEX352605	Storing waste exemption	Not on a farm	Storage of waste in a secure place
K	450m W	BLACKWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JW	WEX352605	Treating waste exemption	Not on a farm	Manual treatment of waste

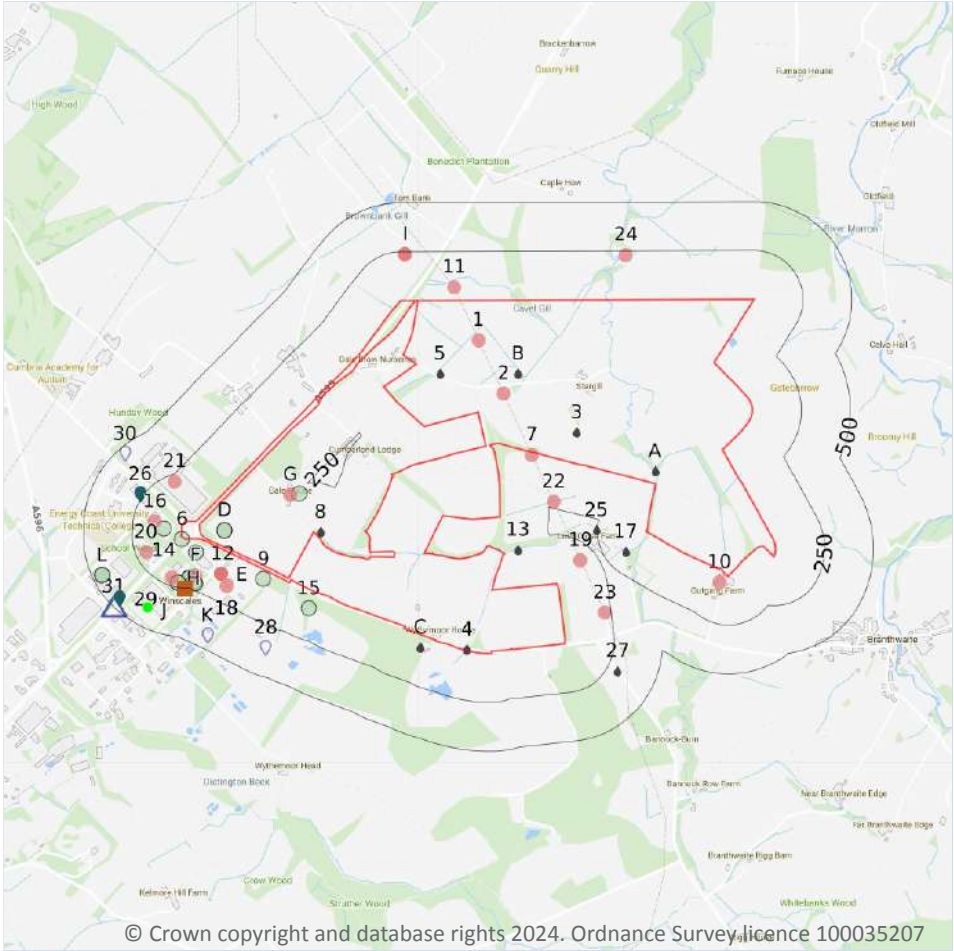


ID	Location	Site	Reference	Category	Sub-Category	Description
K	450m W	BLACKWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JW	WEX226991	Storing waste exemption	Not on a farm	Storage of waste in a secure place
K	450m W	BLACKWOOD ROAD, LILLYHALL INDUSTRIAL ESTATE, LILLYHALL, WORKINGTON, CA14 4JW	WEX226991	Treating waste exemption	Not on a farm	Manual treatment of waste

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
- ◊ Part A(1) industrial activities
- ◆ Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollutant release to public sewer
- Pollution Incidents (EA/NRW)
- Pollution inventory radioactive waste

4.1 Recent industrial land uses

Records within 250m **21**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 43](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
2	On site	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
7	14m W	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
10	52m SE	Tank	Cumbria, CA14	Tanks (Generic)	Industrial Features
11	69m NW	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
E	116m W	P A R Systems Ltd	Unit 1 Joseph Noble Road, Lillyhall, Workington, Cumbria, CA14 4JX	Industrial Engineers	Engineering Services
E	116m W	Cyclife UK Ltd	Unit 1 Plot C, Joseph Noble Road, Lillyhall Industrial Estate, Lillyhall, Cumbria, CA14 4JX	Recycling, Reclamation and Disposal	Recycling Services
E	116m W	Dobie's Cumbria	Unit 1 Plot C, Joseph Noble Road, Lillyhall Industrial Estate, Lillyhall, Cumbria, CA14 4JX	Vehicle Repair, Testing and Servicing	Repair and Servicing
16	139m W	Bus Depot	Cumbria, CA14	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
18	160m SW	Electricity Sub Station	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
19	173m S	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
F	180m W	West Cumberland Engineering Ltd	Unit 5 Murton Road, Pittwood Road, Lillyhall Industrial Estate, Lillyhall, Cumbria, CA14 4JX	Industrial Engineers	Engineering Services
20	199m W	Arnold Clark Workington	-, Blackwood Road, Lillyhall Industrial Estate, Lillyhall, Cumbria, CA14 4JW	New Vehicles	Motoring
H	210m W	E Z Roof	Unit 21, Joseph Noble Road, Lillyhall Industrial Estate, Lillyhall, Cumbria, CA14 4JX	General Construction Supplies	Industrial Products
21	213m W	Eddie Stobart	Unit A1, Branthwaite Road, Workington, Cumbria, CA14 4ED	Distribution and Haulage	Transport, Storage and Delivery
22	217m S	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
23	218m S	Pylon	Cumbria, CA14	Electrical Features	Infrastructure and Facilities
G	225m W	J & S Plant & Skip Hire Cumbria Ltd	Gale House Farm, -, Winscales, Cumbria, CA14 4JQ	Construction and Tool Hire	Hire Services
24	231m NE	Butts	Cumbria, CA14	Shooting Facilities	Sports Complex
I	237m NW	High Mains	East Town End, -, Winscales, Workington, Cumbria, CA14 4JG	Energy Production	Industrial Features



ID	Location	Company	Address	Activity	Category
I	237m NW	High Mains Turbine	Cumbria, CA14	Energy Production	Industrial Features

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 43 >](#)

ID	Location	Company	Address	LPG	Status
31	499m W	BP	Long Mile, Lilly Hall Estate, Workington, Cumbria, CA15 4JT	No	Open

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

12

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

Features are displayed on the Current industrial land use map on [page 43](#) >



ID	Location	Details	
28	354m SW	Operator: FCC Recycling (UK) Limited Installation Name: Lillyhall Stage 3 Landfill Site EPR/GP3037SJ Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: PP3835VJ Original Permit Number: GP3037SJ	EPR Reference: - Issue Date: 04/03/2014 Effective Date: 04/03/2014 Last date noted as effective: 21/03/2023 Status: Effective
K	433m SW	Operator: FCC RECYCLING (UK) LIMITED Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: HP3031LM Original Permit Number: HP3031LM	EPR Reference: EPR/HP3031LM Issue Date: 10/09/2015 Effective Date: 19/05/2015 Last date noted as effective: 23/11/2023 Status: Effective
K	433m SW	Operator: FCC RECYCLING (UK) LIMITED Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING REPACKAGING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1 Permit Number: HP3031LM Original Permit Number: HP3031LM	EPR Reference: EPR/HP3031LM Issue Date: 10/09/2015 Effective Date: 19/05/2015 Last date noted as effective: 23/11/2023 Status: Effective
K	433m SW	Operator: FCC RECYCLING (UK) LIMITED Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: HP3031LM Original Permit Number: HP3031LM	EPR Reference: EPR/HP3031LM Issue Date: 10/09/2015 Effective Date: 19/05/2015 Last date noted as effective: 23/11/2023 Status: Effective
K	433m SW	Operator: FCC RECYCLING (UK) LIMITED Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: HP3031LM Original Permit Number: HP3031LM	EPR Reference: EPR/HP3031LM Issue Date: 10/09/2015 Effective Date: 19/05/2015 Last date noted as effective: 23/11/2023 Status: Effective



ID	Location	Details	
K	433m SW	Operator: FCC RECYCLING (UK) LIMITED Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED Permit Number: HP3031LM Original Permit Number: HP3031LM	EPR Reference: EPR/HP3031LM Issue Date: 10/09/2015 Effective Date: 19/05/2015 Last date noted as effective: 23/11/2023 Status: Effective
K	433m SW	Operator: FCC Recycling (UK) Limited Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING REPACKAGING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1 Permit Number: AP3333AD Original Permit Number: HP3031LM	EPR Reference: - Issue Date: 19/05/2015 Effective Date: 19/05/2015 Last date noted as effective: 21/03/2023 Status: Effective
K	433m SW	Operator: FCC Recycling (UK) Limited Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: AP3333AD Original Permit Number: HP3031LM	EPR Reference: - Issue Date: 19/05/2015 Effective Date: 19/05/2015 Last date noted as effective: 21/03/2023 Status: Effective
K	433m SW	Operator: FCC Recycling (UK) Limited Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: AP3333AD Original Permit Number: HP3031LM	EPR Reference: - Issue Date: 19/05/2015 Effective Date: 19/05/2015 Last date noted as effective: 21/03/2023 Status: Effective
K	433m SW	Operator: FCC Recycling (UK) Limited Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: AP3333AD Original Permit Number: HP3031LM	EPR Reference: - Issue Date: 19/05/2015 Effective Date: 19/05/2015 Last date noted as effective: 21/03/2023 Status: Effective



ID	Location	Details	
K	433m SW	Operator: FCC Recycling (UK) Limited Installation Name: Lillyhall Waste Management Centre - EPR/HP3031LM Process: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED Permit Number: AP3333AD Original Permit Number: HP3031LM	EPR Reference: - Issue Date: 19/05/2015 Effective Date: 19/05/2015 Last date noted as effective: 21/03/2023 Status: Effective
30	464m W	Operator: GREEN PEAK GENERATION LIMITED Installation Name: Lillyhall Process: NEW MEDIUM COMBUSTION PLANT Permit Number: SP3800PX Original Permit Number: SP3800PX	EPR Reference: EPR/SP3800PX Issue Date: 07/02/2023 Effective Date: 16/08/2019 Last date noted as effective: 23/11/2023 Status: Effective

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

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

Records within 500m	2
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Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on [page 43 >](#)

ID	Location	Address	Details	
26	266m W	ACCO (UK) Ltd trading as Cumberland Pencil Co, Derwent House, Jubilee Road, Lillyall, CH14 4HS	Process: Wood Coating Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
29	449m W	Longmile Filling Station, Lillyhall Industrial Estate, Lillyhall, Workington, CA14 4JT	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.



4.12 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

14

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 43 >](#)

ID	Location	Address	Details	
3	On site	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590116 Permit Version: 1 Receiving Water: TRIB.LOSTRIGG BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 01/03/1991
4	On site	LAGOON1, OUTFALL 1, POTATO POT OCCS, LILLYHALL, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590144 Permit Version: 1 Receiving Water: UGH	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 27/09/1985 Revocation Date: 14/07/1997
5	On site	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590114 Permit Version: 1 Receiving Water: CAVEL GILL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 01/03/1991
A	On site	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590118 Permit Version: 1 Receiving Water: LOSTRIGG BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 01/03/1991



ID	Location	Address	Details	
A	On site	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590117 Permit Version: 1 Receiving Water: LOSTRIGG BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 01/03/1991
B	On site	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590115 Permit Version: 1 Receiving Water: CAVEL GILL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 30/09/1983
B	On site	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590115 Permit Version: 2 Receiving Water: CAVEL GILL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/10/1983 Revocation Date: 01/03/1991
8	23m W	OILY JOHNNIES PUBLIC HOUSE, WINSKALES, NEAR WORKINGTON, CUMBRIA, CA14 4JG	Effluent Type: SEWAGE & TRADE COMBINED - UNSPECIFIED Permit Number: NPSWQD000073 Permit Version: 1 Receiving Water: TRIB WYTHEMOOR SOUGH	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 12/02/2008 Effective Date: 12/02/2008 Revocation Date: -
C	63m SW	WYTHEMOOR SOUGH FARM, BRANTHWAITE ROAD, WORKINGTON, CUMBRIA, CA14 4ST	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 017490131 Permit Version: 1 Receiving Water: UNKNOWN	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 10/06/1986 Effective Date: 10/06/1986 Revocation Date: -
C	64m SW	2A OXCLIFFE GROVE SWO, MORCAMBE, CUMBRIA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 017490126 Permit Version: 1 Receiving Water: WYTHEMOOR SOUGH	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 10/06/1986 Revocation Date: 09/01/1991
13	72m S	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590120 Permit Version: 1 Receiving Water: WYTHEMOOR SOUGH	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 01/03/1991



ID	Location	Address	Details	
17	149m SE	BRANTHWAITE SCOUT CAMP, BRANTHWAITE, WORKINGTON, CUMBRIA, CA14 4SX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 017590475 Permit Version: 1 Receiving Water: WYTHERMOOR SOUGH	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 07/07/2006 Effective Date: 07/07/2006 Revocation Date: -
25	258m SE	NCB OUTGANG OCCS, NR WORKINGTON, ALLERDALE, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590119 Permit Version: 1 Receiving Water: LOSTRIGG BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/10/1977 Revocation Date: 01/03/1991
27	305m S	LAGOON1, OUTFALL 1, POTATO POT OCCS, LILLYHALL, CUMBRIA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 017590141 Permit Version: 1 Receiving Water: TRIB LOSTRIGG BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 27/09/1985 Revocation Date: 14/07/1997

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

1

Discharges of Special Category Effluents to the public sewer.

Features are displayed on the Current industrial land use map on [page 43 >](#)

ID	Location	Address	Details	
H	255m W	ALCO WASTE MANAGEMENT LTD, LIQUID WASTE MANAGEMENT FACILITY, LILLYHALL TIP, WORKINGTON, CUMBRIA	Permission reference: AK5822 Local Authority: ALLERDALE DISTRICT COUNCIL First received date: 01/06/2001	Last received date: 01/01/2018 Status: DEAD (APPLICATION)

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

19

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 43 >](#)

ID	Location	Details	
6	10m W	Incident Date: 23/03/2002 Incident Identification: 66075 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
9	45m SW	Incident Date: 15/07/2003 Incident Identification: 173800 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
12	71m W	Incident Date: 25/03/2007 Incident Identification: 479481 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 2 (Significant) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
D	79m W	Incident Date: 27/03/2003 Incident Identification: 146677 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

ID	Location	Details	
D	79m W	Incident Date: 27/03/2003 Incident Identification: 146677 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
14	91m W	Incident Date: 02/12/2002 Incident Identification: 132675 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
15	91m SW	Incident Date: 05/04/2002 Incident Identification: 69052 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
F	200m W	Incident Date: 30/05/2003 Incident Identification: 161774 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
F	200m W	Incident Date: 18/10/2001 Incident Identification: 37440 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
F	200m W	Incident Date: 17/10/2002 Incident Identification: 115273 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
G	208m W	Incident Date: 21/04/2001 Incident Identification: 2977 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
F	214m W	Incident Date: 05/10/2001 Incident Identification: 34765 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
F	217m W	Incident Date: 16/10/2001 Incident Identification: 36908 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
F	219m W	Incident Date: 15/10/2001 Incident Identification: 36632 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)



ID	Location	Details	
H	228m W	Incident Date: 09/05/2001 Incident Identification: 5008 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
H	228m W	Incident Date: 10/05/2001 Incident Identification: 5111 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
L	452m W	Incident Date: 12/03/2001 Incident Identification: 228 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Food and Drink	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
L	452m W	Incident Date: 12/03/2001 Incident Identification: 228 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
L	452m W	Incident Date: 12/03/2001 Incident Identification: 228 Pollutant: General Biodegradable Materials and Wastes:General Biodegradable Materials and Wastes Pollutant Description: Food and Drink:Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) 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

2

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.

Features are displayed on the Current industrial land use map on [page 43 >](#)

ID: J, Location: 401m W, Permit: ZB3335DP
 Operator: Cyclife UK Ltd
 Address: 1 Joseph Noble Road, Lillyhall industrial estate, Workington CA14 4JX
 Releases:

Route	Substance	Quantity released
Air	Other Alpha Particulate	--
Air	Other Beta/Gamma Particulate	--
Wastewater	Total Alpha	--
Wastewater	Total Beta/Gamma (Excl Tritium)	--

ID: J, Location: 401m W, Permit: DB3996DJ
 Operator: Energy Coast Laundry Limited
 Address: 1 Joseph Noble Road, Lillyhall industrial estate, Workington CA14 4JX
 Releases:

Route	Substance	Quantity released
Wastewater	Tritium	--
Wastewater	Carbon 14	--
Air	Tritium	--



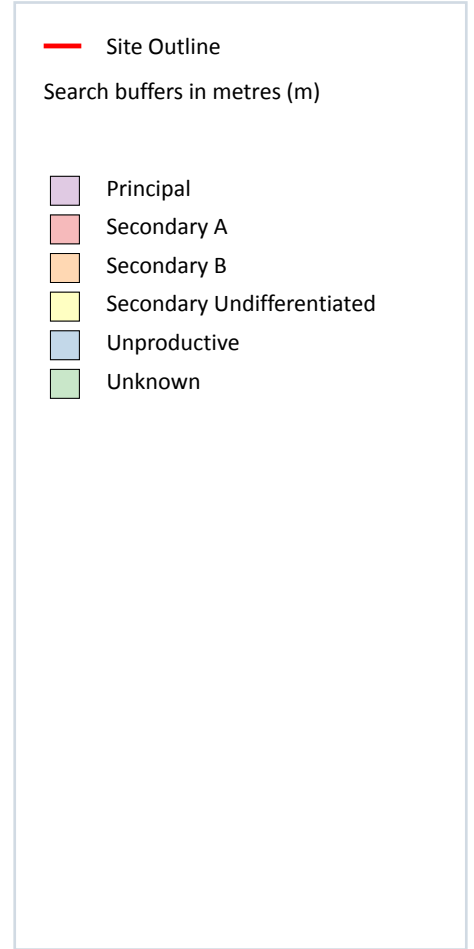
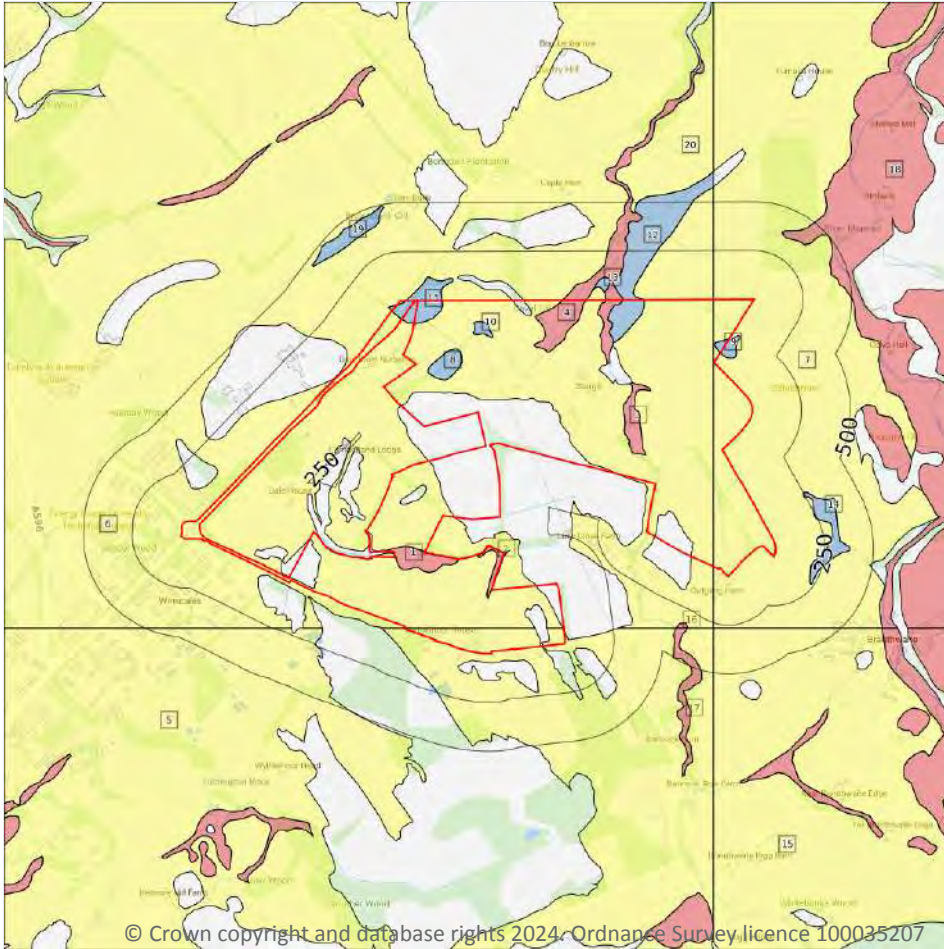
Route	Substance	Quantity released
Wastewater	Yttrium 90	--
Wastewater	Zirconium 95	--
Wastewater	Antimony 125	--
Air	Other Alpha Particulate	--
Air	Other Beta/Gamma Particulate	6.7MBq -
Wastewater	Other Beta/Gamma	1.3MBq -
Air	Carbon 14	--
Wastewater	Curium 242	--
Wastewater	Other Alpha Particulate	--
Air	Ruthenium 106	--
Air	Caesium 137	--
Wastewater	Cobalt 60	--
Wastewater	Strontium 90	--
Wastewater	Ruthenium 106	--
Air	Americium 241	--
Wastewater	Caesium 134	--
Wastewater	Caesium 137	--
Wastewater	Plutonium 241	--
Wastewater	Americium 241	--
Wastewater	Cerium 144	--
Wastewater	Technetium 99	--
Wastewater	Thorium 230	--
Wastewater	Total Alpha	--
Wastewater	Total Beta/Gamma (Excl Tritium)	3.9MBq -
Air	Uranium Alpha	--
Air	Plutonium Alpha	1.5MBq -
Wastewater	Uranium Alpha	--
Wastewater	Plutonium Alpha	--



Route	Substance	Quantity released
Air	Cobalt-60	--
Air	Strontium-90	--
Air	Antimony-125	--
Air	Plutonium-241	--
Air	Curium-242	--
Wastewater	Curium-244	--

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

20

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 59 >](#)

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

ID	Location	Designation	Description
3	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
4	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
5	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
6	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
7	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
8	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
9	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
10	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
11	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
12	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
13	37m N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
14	196m SE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
15	265m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
16	322m SE	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
17	337m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

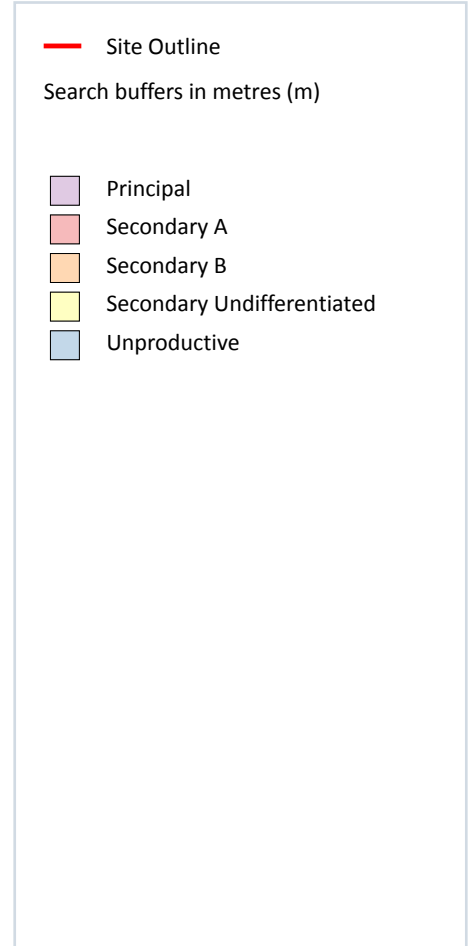
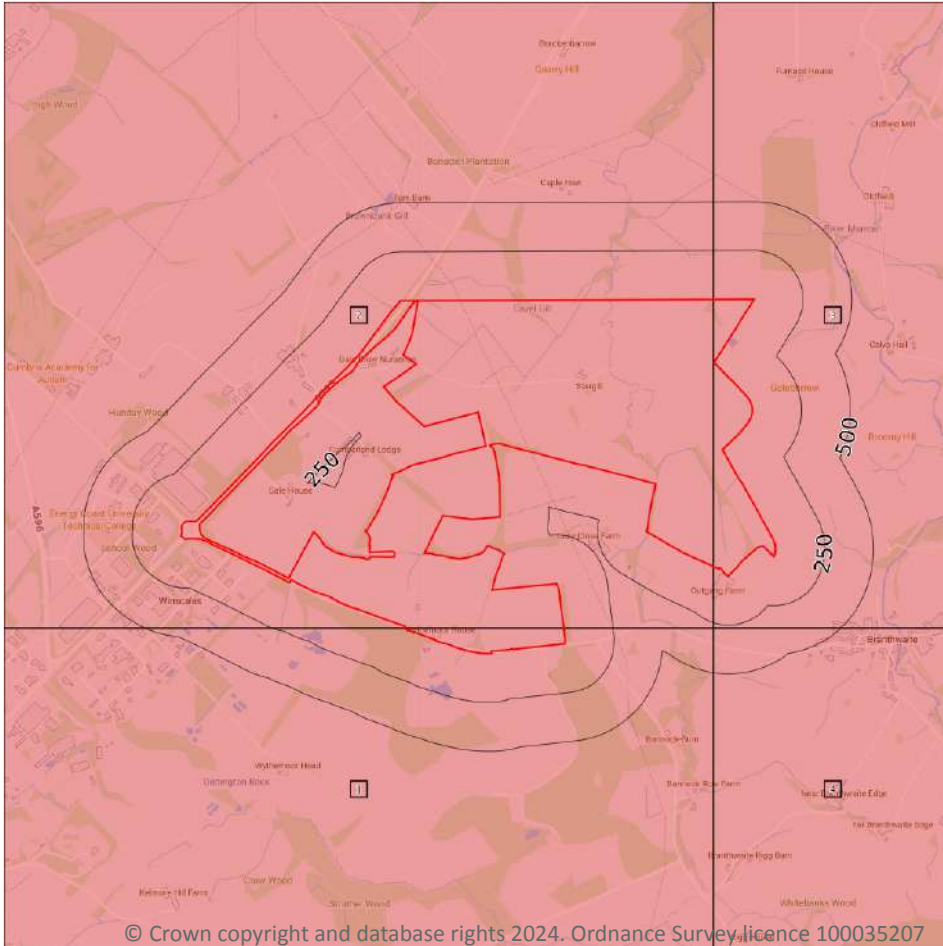


ID	Location	Designation	Description
18	355m NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
19	388m NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
20	446m 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

4

Aquifer status of groundwater held within bedrock geology.

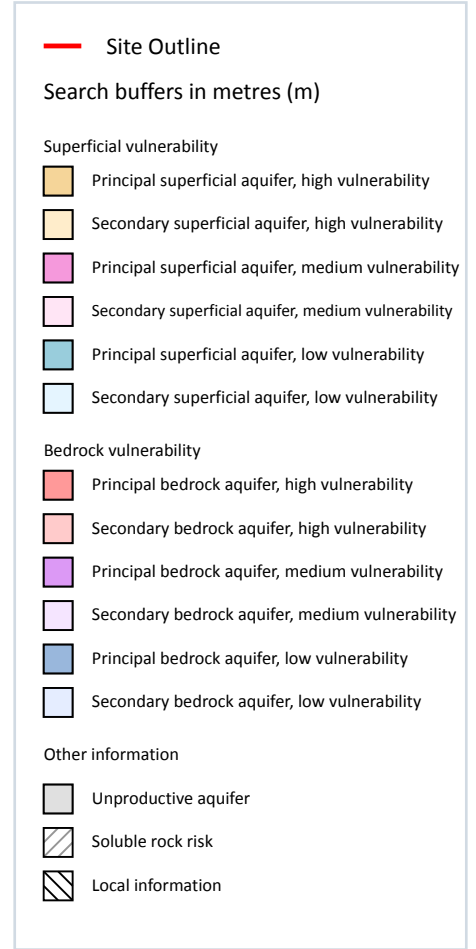
Features are displayed on the Bedrock aquifer map on [page 62](#) >

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

ID	Location	Designation	Description
3	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
4	265m SE	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

46

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 64](#) >

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: >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 - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >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
3	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: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
5	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
6	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
8	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
9	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
10	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: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
11	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: >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
12	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: >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



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
13	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: >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
14	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: >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
15	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: >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
16	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: >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
17	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: >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
18	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
19	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
20	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
21	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
22	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
23	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
24	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
25	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
26	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
27	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
28	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
29	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
30	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
31	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
32	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
33	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
34	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
35	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
36	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
37	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
38	4m W	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
39	17m SW	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
40	26m W	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
41	35m SW	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
42	37m W	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
43	37m N	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
44	41m S	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
45	45m SW	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
46	47m SW	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	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

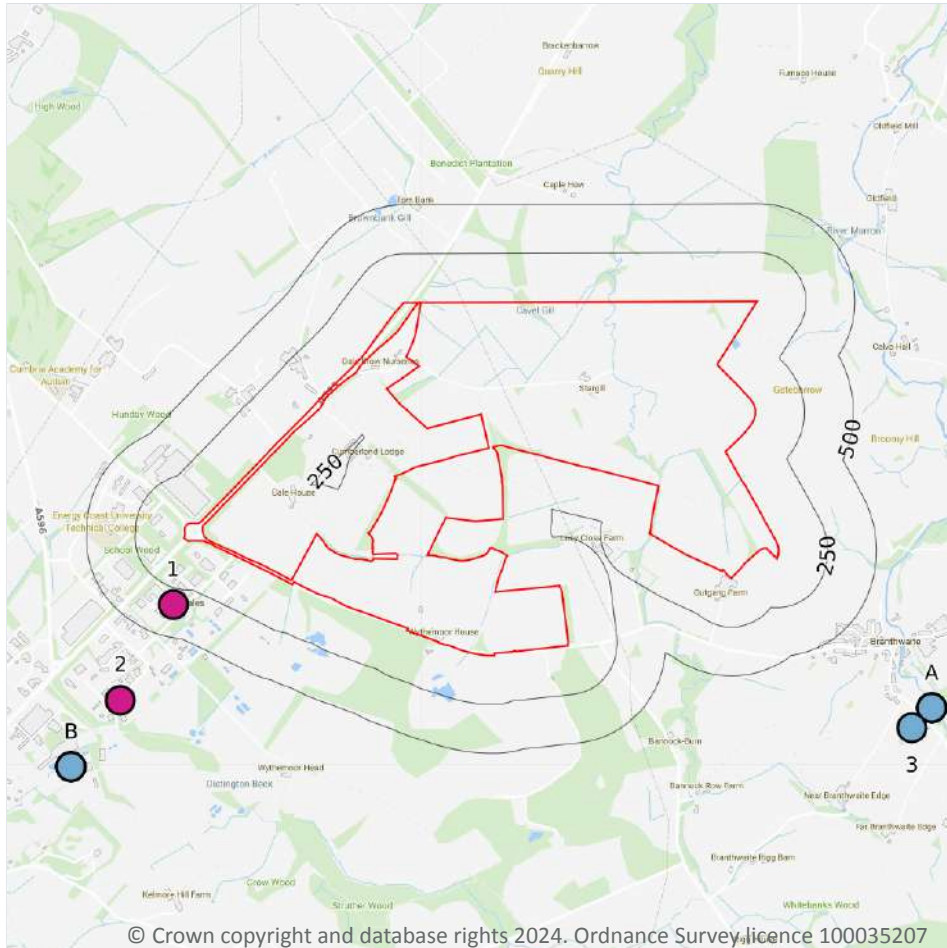
0

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

2

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 73 >](#)

ID	Location	Details	
1	334m W	Status: Active Licence No: NW/074/0001/002 Details: Laundry Use Direct Source: Ground Water - North West Region Point: BOREHOLE - LOWER COAL MEASURES - JOSEPH NOBLE ROAD Data Type: Point Name: Shortridge Ltd Easting: 302221 Northing: 525130	Annual Volume (m ³): 60000 Max Daily Volume (m ³): 300 Original Application No: NPS/WR/015770 Original Start Date: 04/09/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 04/09/2018 Version End Date: -
2	882m SW	Status: Active Licence No: NW/074/0001/001 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE - LOWER COAL MEASURES - PITTWOOD ROAD Data Type: Point Name: Handy Concrete (Cumbria) Limited Easting: 301953 Northing: 524643	Annual Volume (m ³): 10010 Max Daily Volume (m ³): 35 Original Application No: NPS/WR/003456 Original Start Date: 28/09/2010 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 28/09/2010 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

9

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.

Features are displayed on the Abstractions and Source Protection Zones map on [page 73 >](#)

ID	Location	Details	
A	1099m SE	Status: Historical Licence No: 2775014004 Details: Fish Farm/Cress Pond Throughflow Direct Source: "Surface, Non-Tidal - North West Region" Point: "R MARRON AT BRANTHWAITE, WORKINGTON,CUMBRIA" Data Type: Point Name: TALBOT Easting: 306100 Northing: 524600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/06/1981 Expiry Date: - Issue No: 100 Version Start Date: 22/06/1981 Version End Date: -



ID	Location	Details	
A	1099m SE	Status: Historical Licence No: 2775014004 Details: Fish Farm/Cress Pond Throughflow Direct Source: Surface, Non-Tidal - North West Region Point: R MARRON AT BRANTHWAITE, WORKINGTON,CUMBRIA Data Type: Point Name: TALBOT Easting: 306100 Northing: 524600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/06/1981 Expiry Date: - Issue No: 101 Version Start Date: 13/02/2004 Version End Date: -
A	1099m SE	Status: Historical Licence No: 2775014004 Details: Fish Farm/Cress Pond Throughflow Direct Source: Surface, Non-Tidal - North West Region Point: RIVER MARRON AT BRANTHWAITE WORKINGTON CUMBRIA Data Type: Point Name: TALBOT Easting: 306100 Northing: 524600	Annual Volume (m ³): 1659290 Max Daily Volume (m ³): 4546 Original Application No: 6242 Original Start Date: 22/06/1981 Expiry Date: - Issue No: 101 Version Start Date: 13/02/2004 Version End Date: -
A	1099m SE	Status: Historical Licence No: 2775014006 Details: Fish Farm/Cress Pond Throughflow Direct Source: Surface, Non-Tidal - North West Region Point: RIVER MARRON AT BRANTHWAITE Data Type: Point Name: TALBOT Easting: 306100 Northing: 524600	Annual Volume (m ³): 4314154 Max Daily Volume (m ³): 11819.60 Original Application No: 7010 Original Start Date: 30/05/1991 Expiry Date: - Issue No: 101 Version Start Date: 13/02/2004 Version End Date: -
3	1106m SE	Status: Historical Licence No: 2775014005 Details: Fish Farm/Cress Pond Throughflow Direct Source: Surface, Non-Tidal - North West Region Point: SPRING FED WATERCOURSE AT BRANTHWAITWORKINGTON Data Type: Point Name: Michael John Leigh & Janice Graham Leigh Easting: 306000 Northing: 524500	Annual Volume (m ³): 109513 Max Daily Volume (m ³): 300 Original Application No: NPS/WR/015318 Original Start Date: 23/01/1986 Expiry Date: - Issue No: 102 Version Start Date: 27/02/2014 Version End Date: -



ID	Location	Details	
B	1301m SW	Status: Historical Licence No: 2774001001 Details: Non-Evaporative Cooling Direct Source: "Surface, Non-Tidal - North West Region" Point: "DISTINGTON BECK AT LILLYHALL, WORKINGTON" Data Type: Point Name: PECHINEY AVIATUBE LTD Easting: 301700 Northing: 524300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 18/04/2001 Version End Date: -
B	1301m SW	Status: Historical Licence No: 2774001001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "DISTINGTON BECK AT LILLYHALL, WORKINGTON" Data Type: Point Name: PECHINEY AVIATUBE LTD Easting: 301700 Northing: 524300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 18/04/2001 Version End Date: -
B	1301m SW	Status: Historical Licence No: 2774001001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: DISTINGTON BECK AT LILLYHALL, WORKINGTON Data Type: Point Name: PECHINEY AVIATUBE LTD Easting: 301700 Northing: 524300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 18/04/2001 Version End Date: -
B	1301m SW	Status: Historical Licence No: 2774001001 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: DISTINGTON BECK AT LILLYHALL, WORKINGTON Data Type: Point Name: PECHINEY AVIATUBE LTD Easting: 301700 Northing: 524300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 18/04/2001 Version End Date: -

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



5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

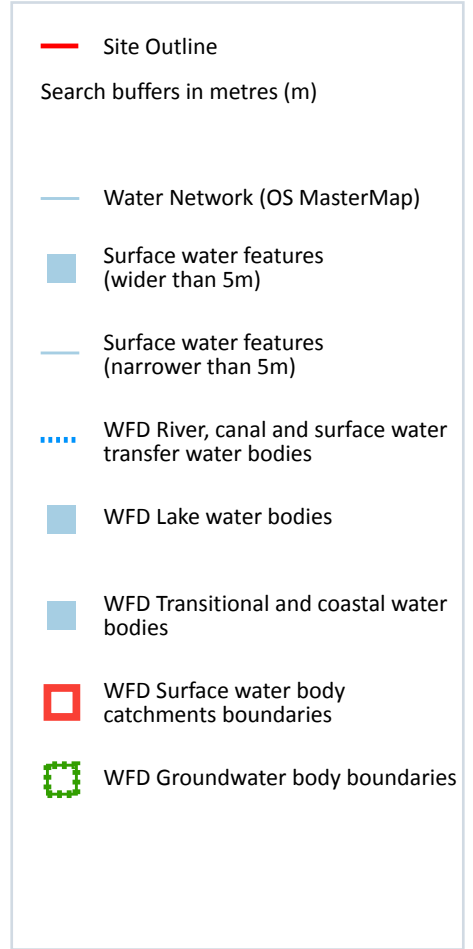
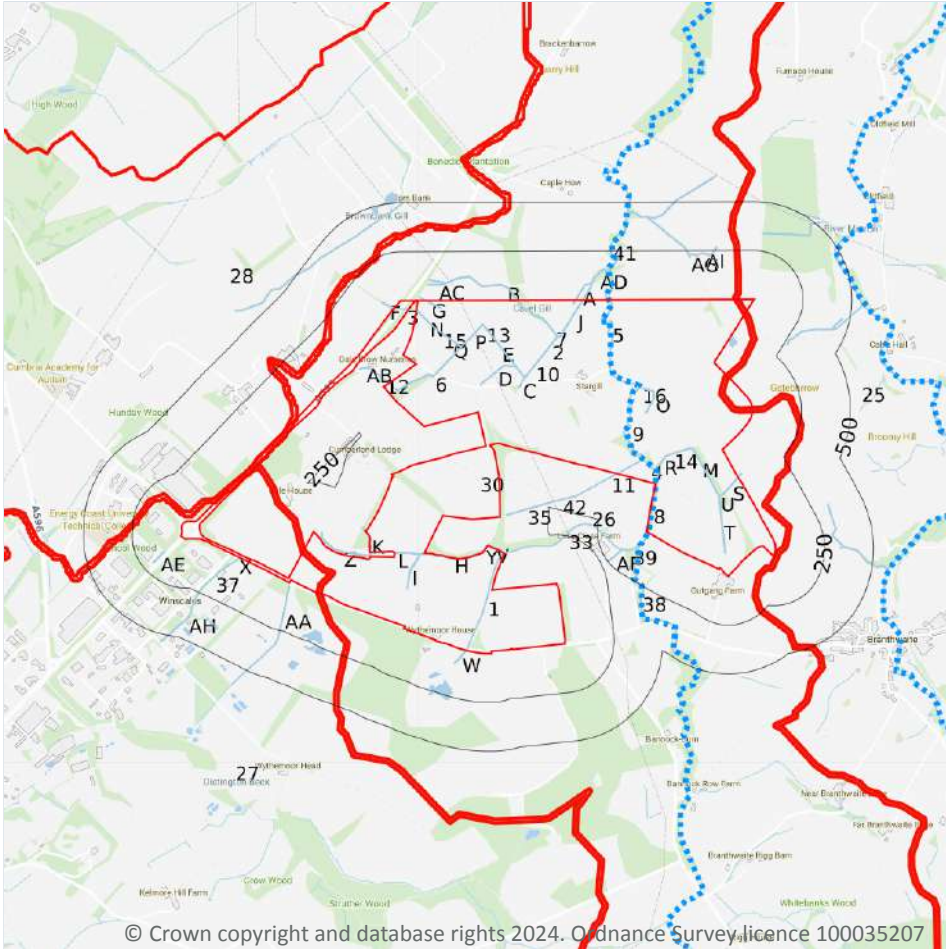
0

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

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



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m **67**

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 78 >](#)

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

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
6	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
8	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
10	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
12	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
13	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
14	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
15	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
16	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
U	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
W	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Wythemoor Sough
V	1m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	2m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	3m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
33	5m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Wythemoor Sough
AA	18m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	22m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	26m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
35	31m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	47m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
37	73m W	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
X	73m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	80m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
38	81m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
39	81m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Wythemoor Sough
AC	88m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
AD	89m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cavel Gill
AE	112m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
41	149m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lostrigg Beck
AF	153m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
42	160m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	213m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	218m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	226m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AG	226m NE	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

26

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 78 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

4

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 78 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
25	On site	River	Marron	GB112075070540	Derwent	Derwent North West
26	On site	River	Lostrigg Beck	GB112075070550	Derwent	Derwent North West
27	On site	River	Lowca Beck	GB112074070040	Ehen-Calder	South West Lakes
28	On site	Coastal Catchment	Not part of a river WB catchment	356	Ehen-Calder	South West Lakes

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



6.4 WFD Surface water bodies

Records identified
3

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 78 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
29	On site	River	Lostrigg Beck	GB112075070550 ↗	Moderate	Fail	Moderate	2019
64	482m NE	River	Marron	GB112075070540 ↗	Moderate	Fail	Good	2019
-	892m SW	River	Lowca Beck	GB112074070040 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site
1

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

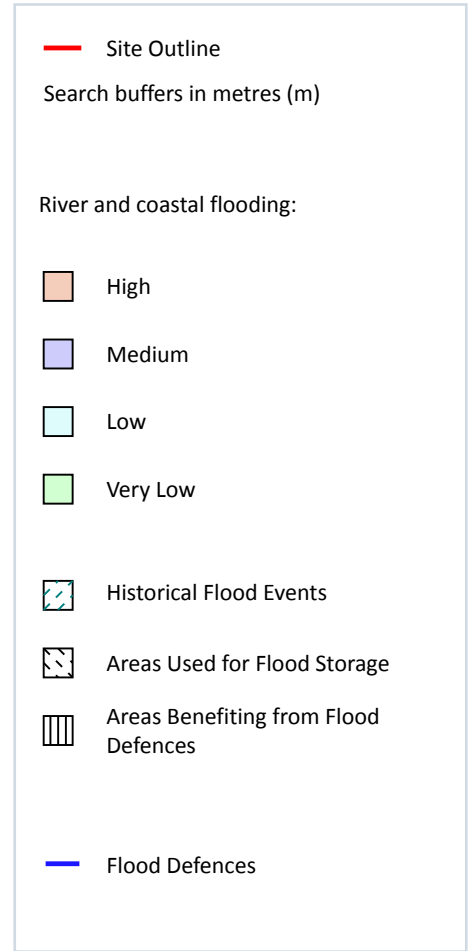
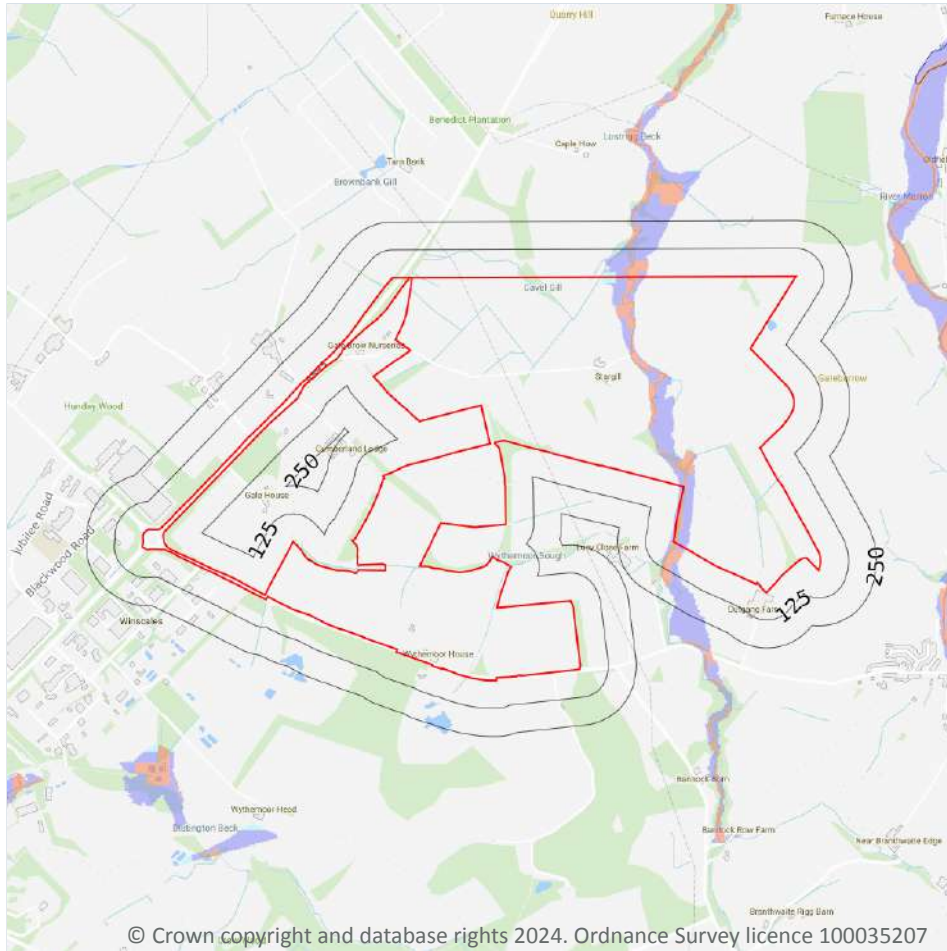
Features are displayed on the Hydrology map on [page 78 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
30	On site	Derwent and West Cumbria Lower Palaeozoic and Carboniferous Aquifers	GB41202G103700 ↗	Poor	Poor	Good	2019

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



7 River and coastal flooding



7.1 Risk of flooding from rivers and the sea

Records within 50m

33

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

Features are displayed on the River and coastal flooding map on [page 86](#) >

Distance	Flood risk category
On site	High
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	0
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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

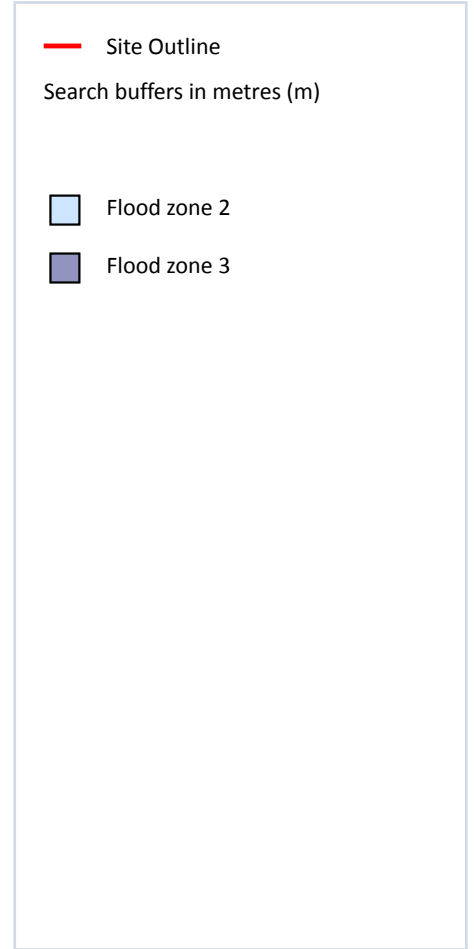
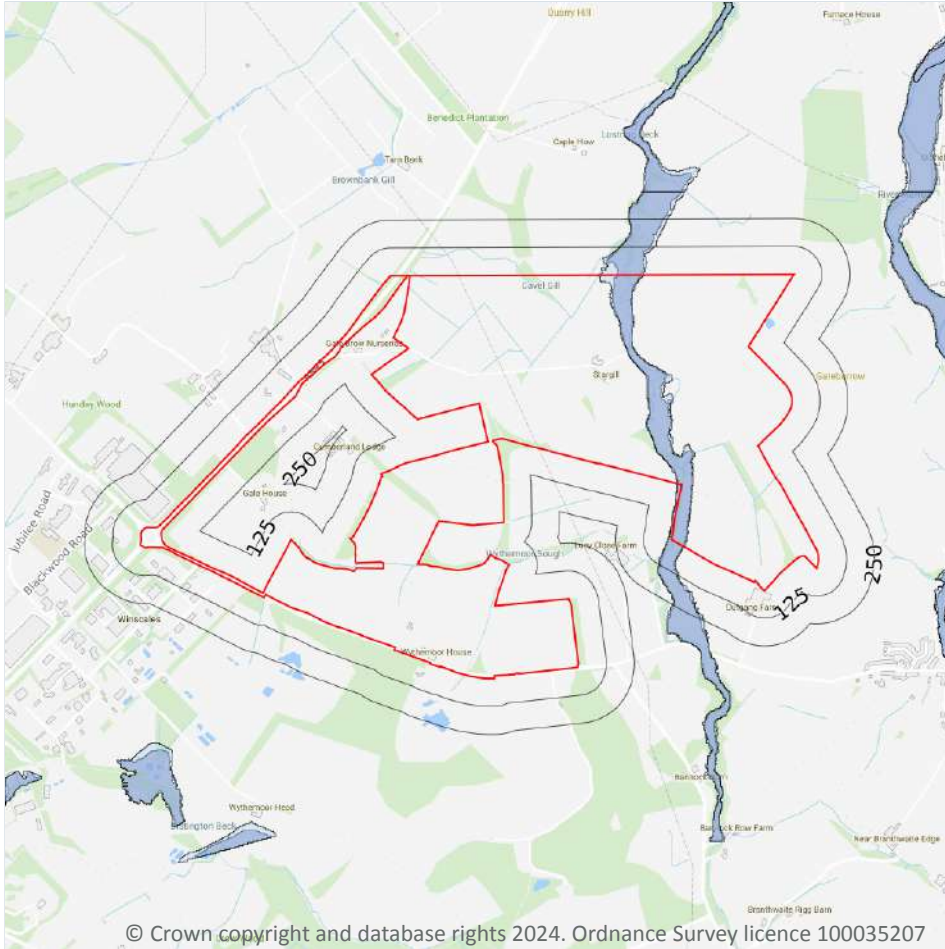
Records within 250m	0
----------------------------	----------

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

1

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.

Features are displayed on the River and coastal flooding map on [page 86](#) >

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m

1

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.

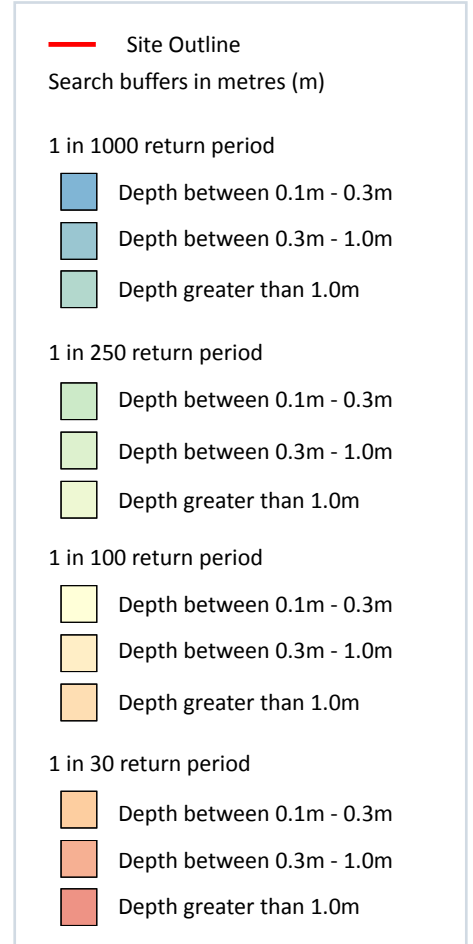
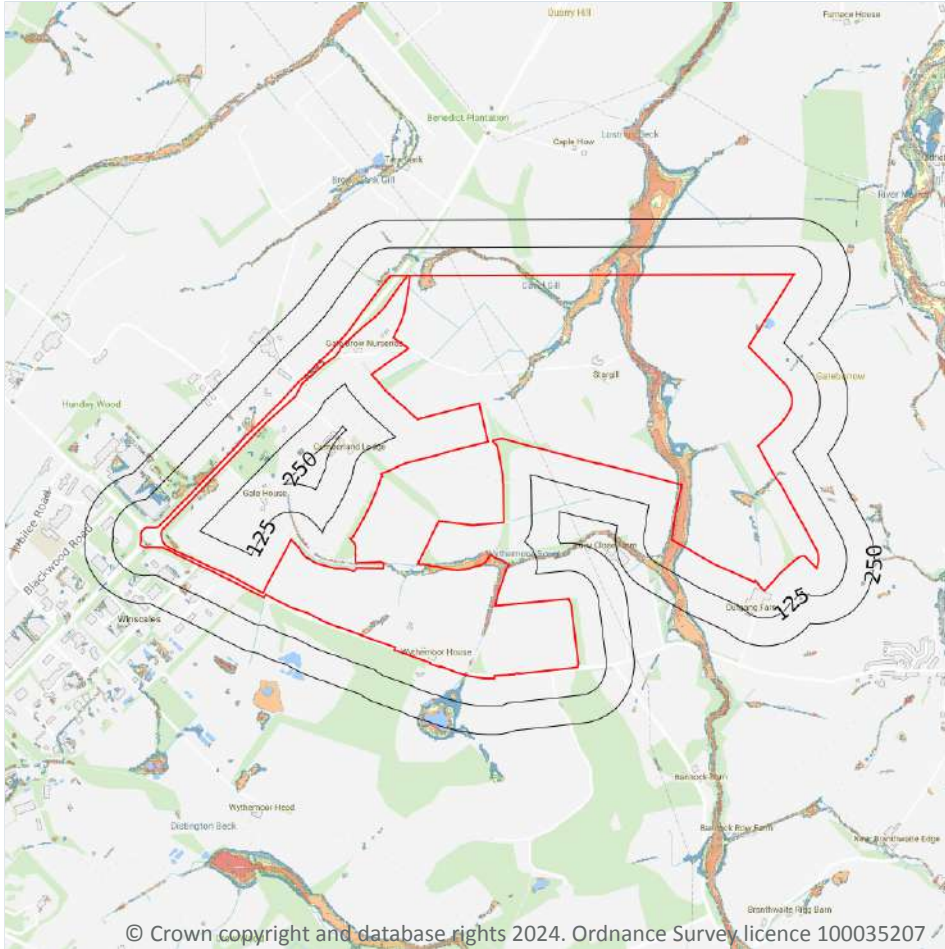
Features are displayed on the River and coastal flooding map on [page 86](#) >

Location	Type
On site	Zone 3 - (Fluvial Models)

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, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 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 90 >](#)

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.

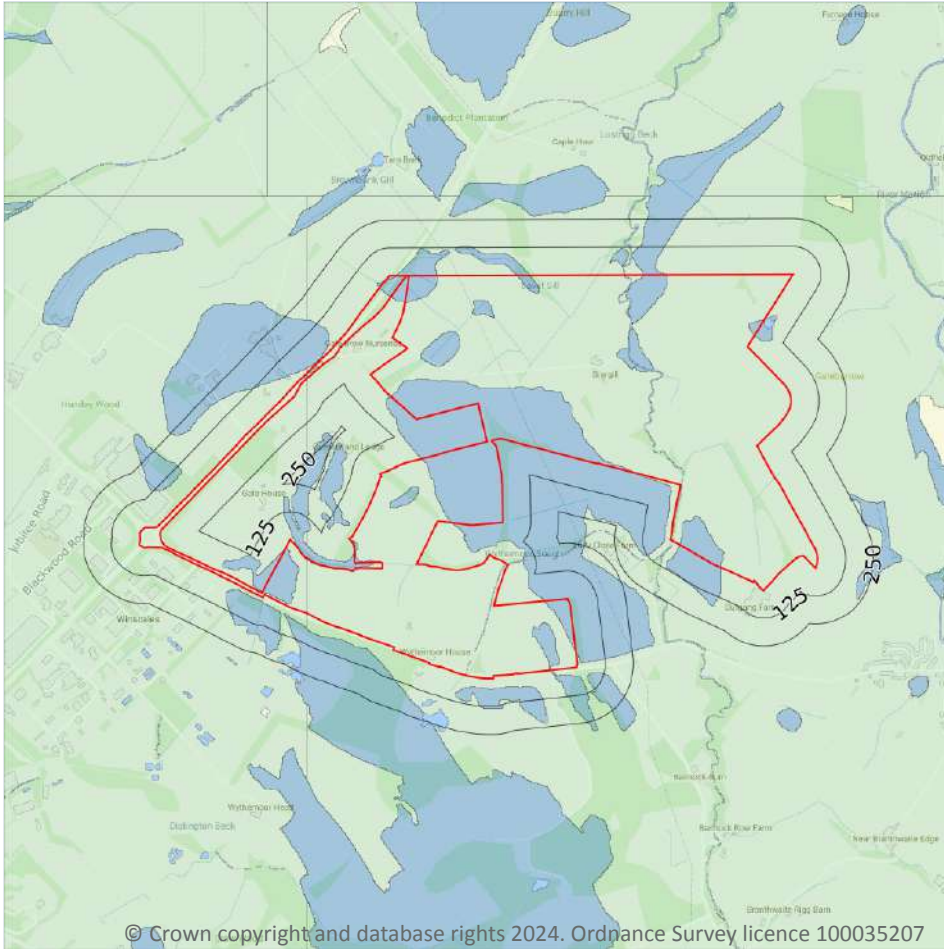
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 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

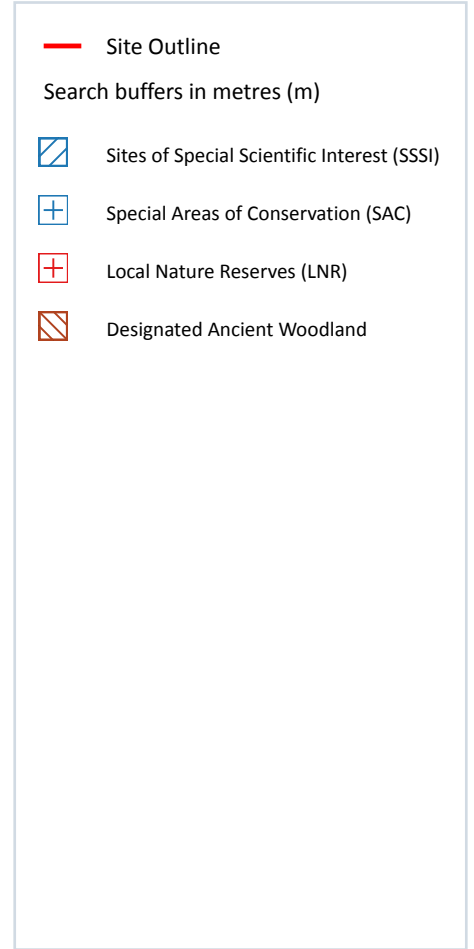
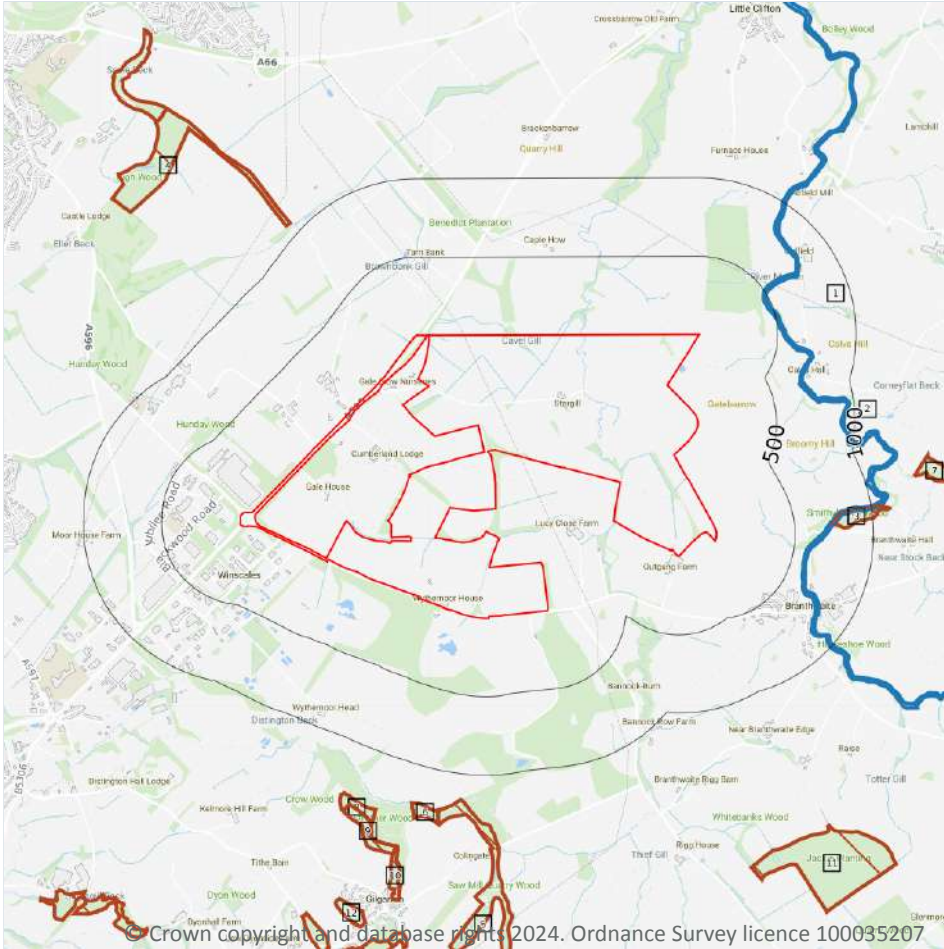
Low

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 92 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

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

Features are displayed on the Environmental designations map on [page 93](#) >

ID	Location	Name	Data source
1	466m NE	River Derwent and Tributaries	Natural England



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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

1

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.

Features are displayed on the Environmental designations map on [page 93](#) >

ID	Location	Name	Features of interest	Habitat description	Data source
2	466m NE	River Derwent & Bassenthwaite Lake	Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; Rivers with floating vegetation often dominated by water-crowfoot; Mixed woodland on base-rich soils associated with rocky slopes; Western acidic oak woodland; Sea lamprey; Brook lamprey; River lamprey; Atlantic salmon; Bullhead; Freshwater pearl mussel; Marsh fritillary butterfly; Otter; Floating water-plantain.	Inland water bodies (Standing water, Running water); Broad-leaved deciduous woodland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

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

10

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

Features are displayed on the Environmental designations map on [page 93 >](#)

ID	Location	Name	Woodland Type
3	744m E	Unknown	Ancient & Semi-Natural Woodland
4	1075m NW	High Wood	Ancient Replanted Woodland
5	1166m S	Struthers Wood/+	Ancient Replanted Woodland
6	1237m S	Struthers Wood/+	Ancient & Semi-Natural Woodland



ID	Location	Name	Woodland Type
7	1316m E	Hollins Wood	Ancient & Semi-Natural Woodland
8	1328m SW	Unknown	Ancient & Semi-Natural Woodland
9	1386m SW	Unknown	Ancient Replanted Woodland
10	1537m S	Unknown	Ancient & Semi-Natural Woodland
11	1955m SE	Branthwaite Edge Wood	Ancient & Semi-Natural Woodland
12	1969m SW	Unknown	Ancient Replanted Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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



10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was



closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

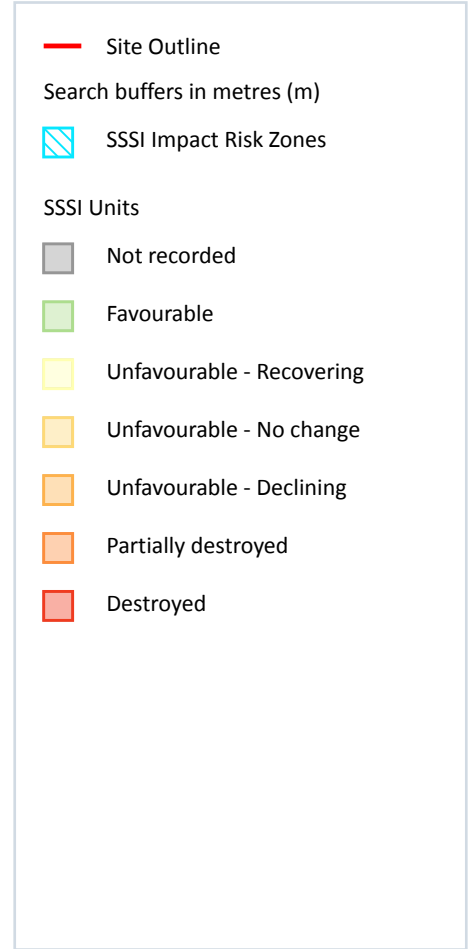
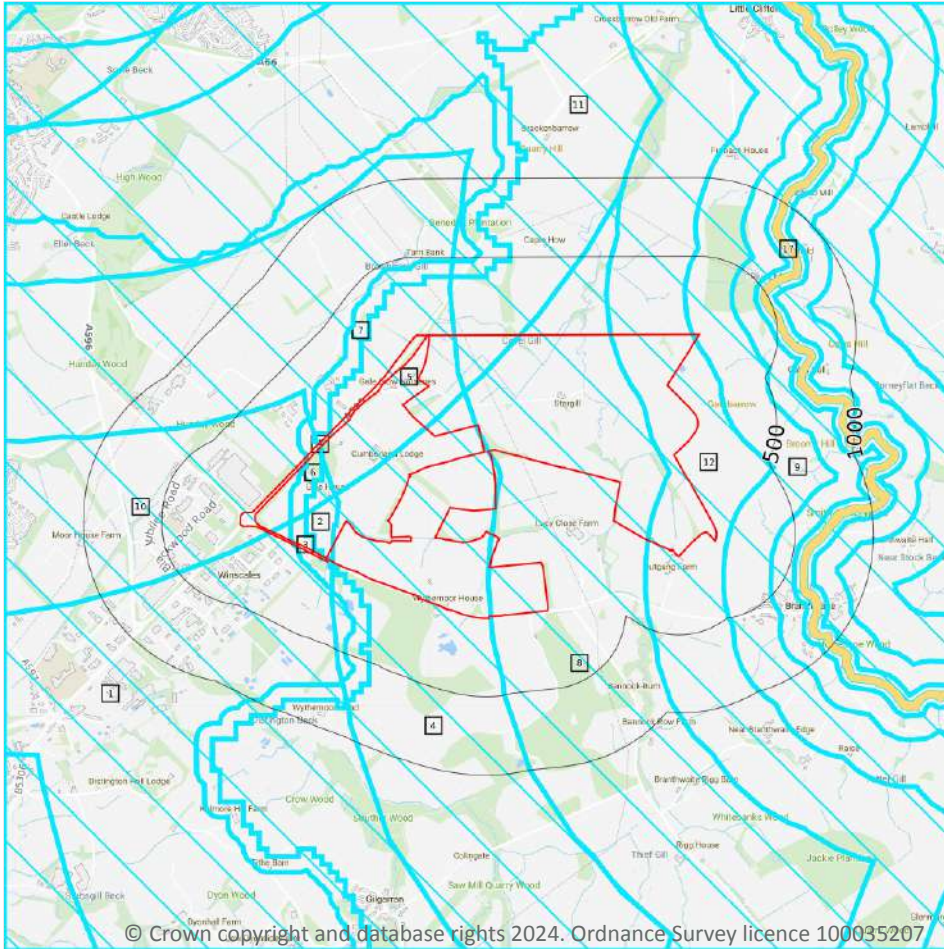
0

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

13

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 99](#) >

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 - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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>
2	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 - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>
3	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 - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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.</p>

ID	Location	Type of developments requiring consultation
4	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>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>
5	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>



ID	Location	Type of developments requiring consultation
6	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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.</p>
7	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p>



ID	Location	Type of developments requiring consultation
8	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>

ID	Location	Type of developments requiring consultation
9	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any development that could cause AIR POLLUTION (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).</p> <p>Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.</p> <p>Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>
10	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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>



ID	Location	Type of developments requiring consultation
11	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>

ID	Location	Type of developments requiring consultation
12	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p> <p>Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p>
A	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p>

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 99](#) >

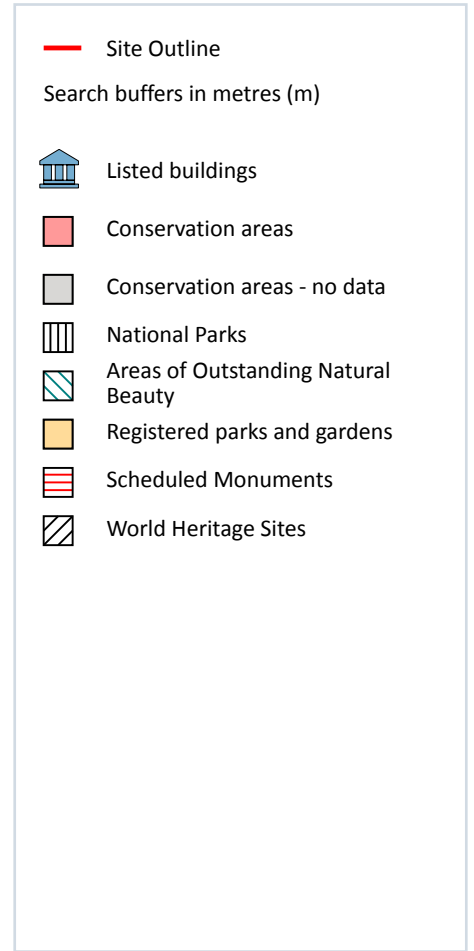
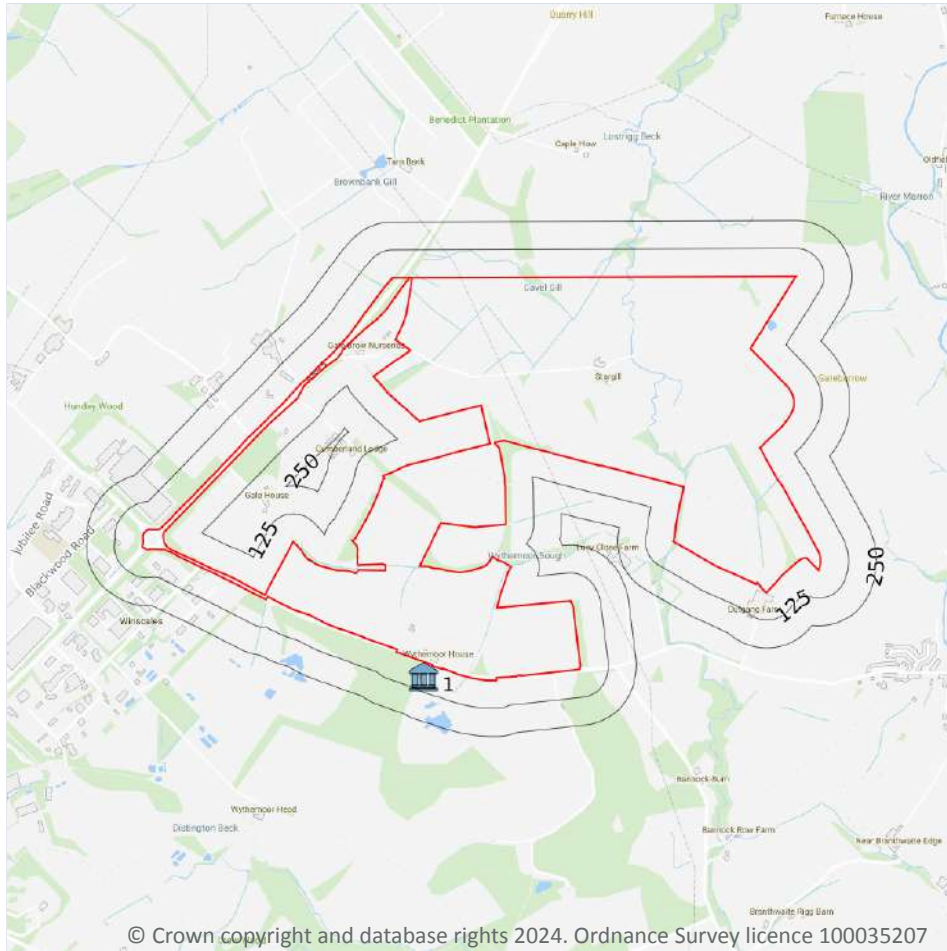
ID: 17
 Location: 466m NE
 SSSI name: River Derwent and Tributaries
 Unit name: River Marron
 Broad habitat: Rivers And Streams
 Condition: Unfavourable - No change
 Reportable features:

Feature name	Feature condition	Date of assessment
Atlantic salmon, <i>Salmo salar</i>	Unfavourable - No change	24/03/2023
Brook lamprey, <i>Lampetra planeri</i>	Unfavourable - No change	24/03/2023
H3260 Water courses of plain to montane levels with <i>R. fluitantis</i>	Unfavourable - No change	24/03/2023
Otter, <i>Lutra lutra</i>	Unfavourable - Recovering	24/12/2010
River lamprey, <i>Lampetra fluviatilis</i>	Unfavourable - No change	24/03/2023
River supporting habitat	Unfavourable - Recovering	24/12/2010
Rivers and Streams	Unfavourable - No change	24/03/2023
S1095 Sea lamprey, <i>Petromyzon marinus</i>	Unfavourable - No change	24/03/2023
S1096 Brook lamprey, <i>Lampetra planeri</i>	Unfavourable - No change	24/03/2023
S1099 River lamprey, <i>Lampetra fluviatilis</i>	Unfavourable - No change	24/03/2023
S1106 Atlantic salmon, <i>Salmo salar</i>	Unfavourable - No change	24/03/2023
S1355 Otter, <i>Lutra lutra</i>	Unfavourable - Recovering	24/12/2010
Sea lamprey, <i>Petromyzon marinus</i>	Unfavourable - No change	24/03/2023

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 108 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
1	61m SW	Wythemoor Sough And Adjoining Barn And Stable	II	1327185	13/12/1985

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



11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

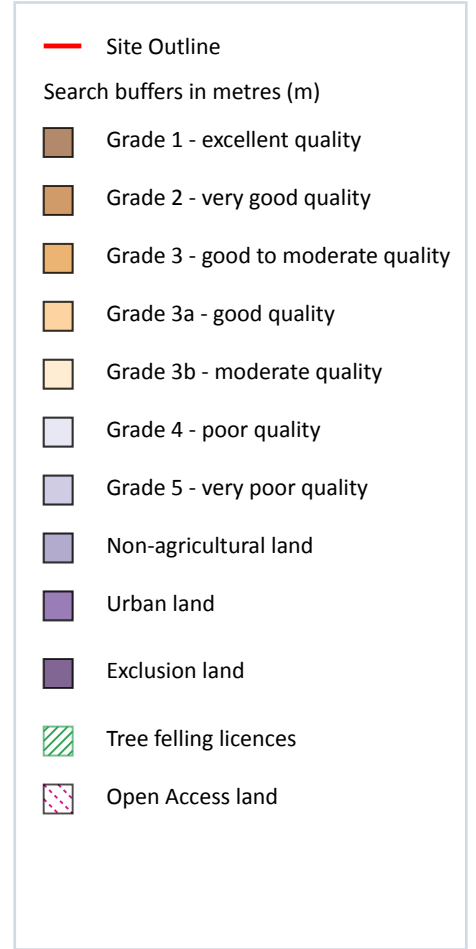
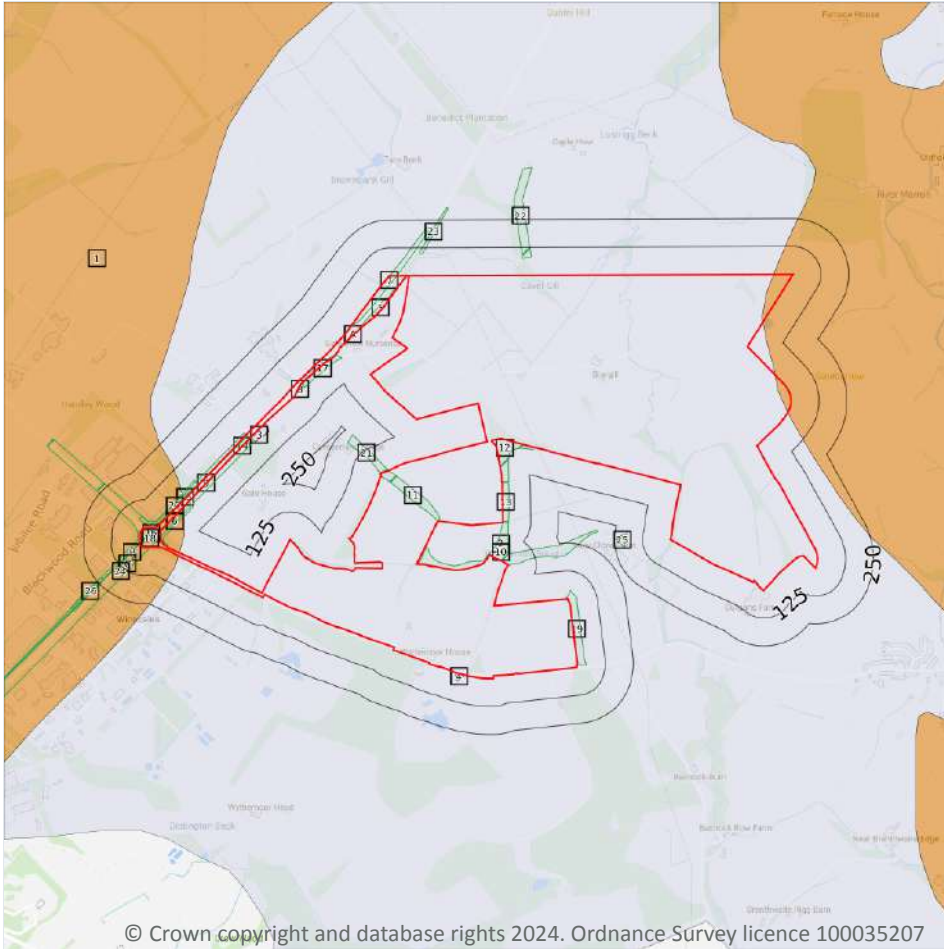
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on [page 111](#) >

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

ID	Location	Classification	Description
2	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	2
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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.

Features are displayed on the Agricultural designations map on [page 111 >](#)

ID	Location	Name	Classification	Other relevant legislation
3	On site	Land near Oak Tree Inn (Cumbria)	Section 4 Conclusive Registered Common Land	-
4	On site	Land at Wythemoor Sough (Cumbria)	Section 4 Conclusive Registered Common Land	-

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

12.3 Tree Felling Licences

Records within 250m	27
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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.

Features are displayed on the Agricultural designations map on [page 111 >](#)

ID	Location	Description	Reference	Application date
5	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
6	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
7	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-



ID	Location	Description	Reference	Application date
8	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
9	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
10	On site	Clear Fell (Conditional)	010/90/14-15	07/10/2014
11	On site	Clear Fell (Conditional)	010/90/14-15	07/10/2014
12	On site	Clear Fell (Conditional)	010/90/14-15	07/10/2014
13	On site	Clear Fell (Conditional)	010/90/14-15	07/10/2014
14	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
15	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
16	On site	Selective Fell/Thin (Unconditional)	010/33/00-01	04/09/2000
17	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
18	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
19	On site	Clear Fell (Conditional)	010/90/14-15	07/10/2014
A	On site	Single Tree	018/366/15-16	-
20	0m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
21	6m W	Clear Fell (Conditional)	010/90/14-15	07/10/2014
B	23m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	42m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
22	75m N	Selective Fell/Thin (Unconditional)	010/75/01-02	04/02/2002
C	77m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
C	83m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
23	98m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
24	125m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
25	194m SE	Clear Fell (Conditional)	010/90/14-15	07/10/2014
26	219m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.



12.4 Environmental Stewardship Schemes

Records within 250m

12

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

Location	Reference	Scheme	Start Date	End date
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00532511	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023
On site	AG00562251	Entry Level Stewardship	01/02/2014	31/01/2019
On site	AG00562251	Entry Level Stewardship	01/02/2014	31/01/2019
1m W	AG00299330	Entry Level plus Higher Level Stewardship	01/01/2010	31/12/2023
147m SE	AG00562251	Entry Level Stewardship	01/02/2014	31/01/2019
171m S	AG00562251	Entry Level Stewardship	01/02/2014	31/01/2019
220m NW	AG00299330	Entry Level plus Higher Level Stewardship	01/01/2010	31/12/2023

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

14

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

Location	Reference	Scheme	Start Date	End Date
On site	1263395	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026
On site	1262526	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026

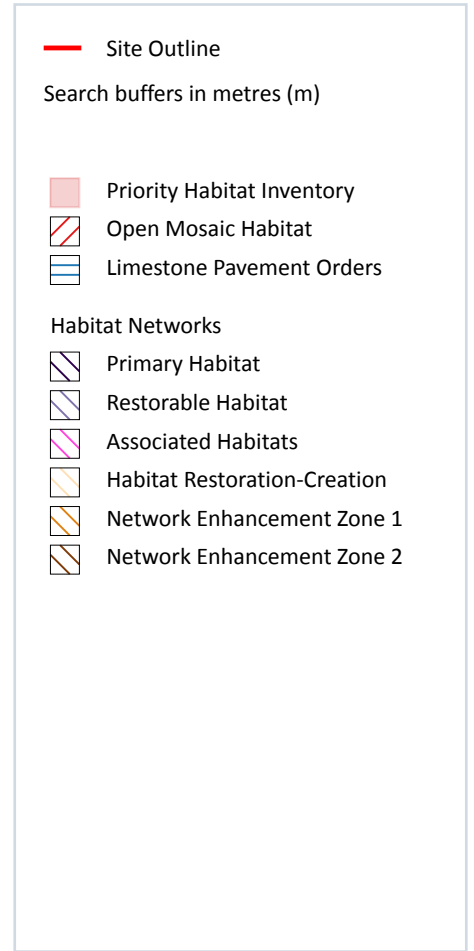
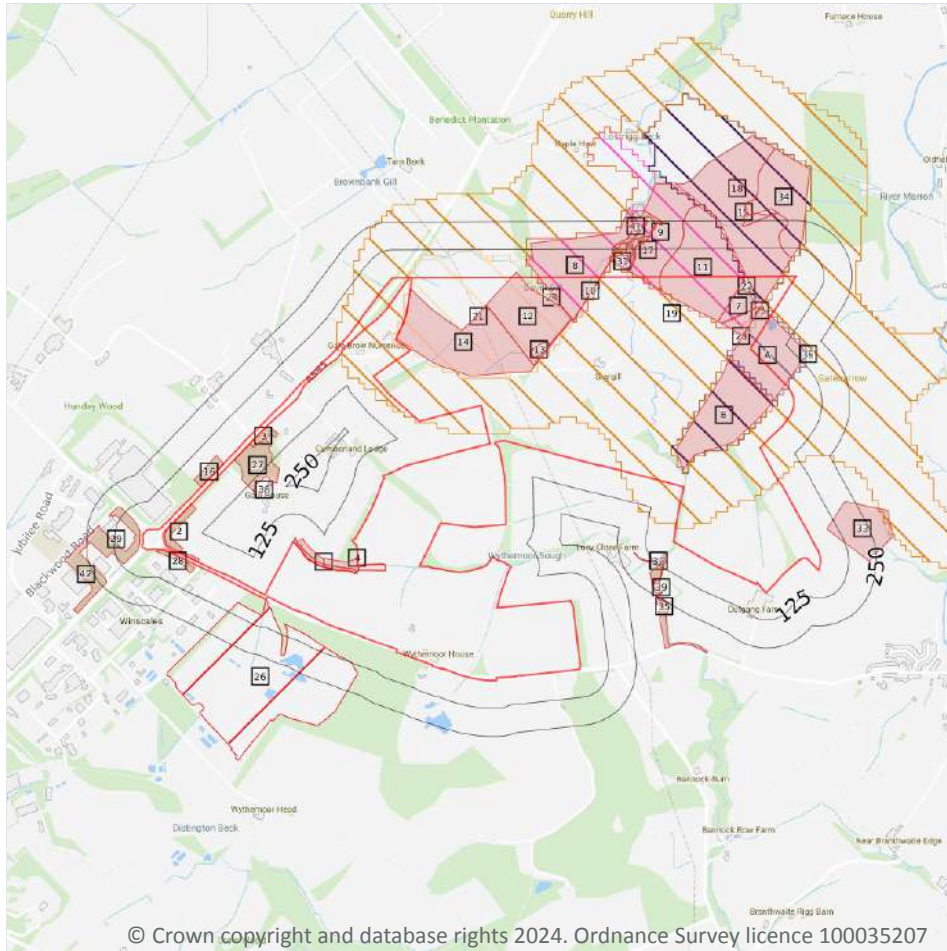


Location	Reference	Scheme	Start Date	End Date
On site	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	1183016	Countryside Stewardship (Higher Tier)	01/01/2022	31/12/2026
0m NW	1030777	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
12m S	1229485	Countryside Stewardship (Higher Tier)	01/01/2022	31/12/2026
58m W	1263395	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026
61m S	1262526	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026
171m S	822390	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024

This data is sourced from Natural England.



13 Habitat designations



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13.1 Priority Habitat Inventory

Records within 250m

42

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 116 >](#)

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



ID	Location	Main Habitat	Other habitats
5	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS)
7	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS)
8	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
9	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
10	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
11	On site	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
12	On site	No main habitat but additional habitats present	Additional: PMGRP (FEP 50%); GQSIG (FEP 50%)
13	On site	No main habitat but additional habitats present	Additional: PMGRP (FEP 50%); GQSIG (FEP 50%)
14	On site	No main habitat but additional habitats present	Additional: PMGRP (FEP 50%); GQSIG (FEP 50%)
15	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)
16	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	On site	No main habitat but additional habitats present	Additional: RBEDS (FEP 50%); PMGRP (FEP 50%); GQSIG (FEP 50%)
B	On site	Purple moor grass and rush pastures	Main habitat: PMGRP (FEP + HLS); Additional: GQSIG (FEP 50%)
27	0m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
28	2m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
29	13m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
30	15m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
31	33m N	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
C	48m N	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
32	67m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
D	73m NE	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
C	79m N	No main habitat but additional habitats present	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
33	81m E	No main habitat but additional habitats present	Additional: PMGRP (FEP 50%)
34	83m NE	Purple moor grass and rush pastures	Main habitat: PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)
35	101m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
36	165m E	No main habitat but additional habitats present	Additional: RBEDS (FEP 50%); PMGRP (FEP 50%); GQSIG (FEP 50%)
37	171m N	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
38	176m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
39	185m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
40	198m NE	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
41	211m N	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
42	219m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
43	219m N	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
44	223m N	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)
45	225m NE	Lowland fens	Main habitat: LFENS (INV > 50%); PMGRP (INV > 50%, FEP + HLS); Additional: LDAGR (FEP 50%); GQSIG (FEP 50%)
46	229m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
47	232m NE	Good quality semi-improved grassland	Main habitat: GQSIG (FEP + HLS); Additional: LFENS (FEP 50%); PMGRP (FEP 50%)

This data is sourced from Natural England.



13.2 Habitat Networks

Records within 250m

13

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.

Features are displayed on the Habitat designations map on [page 116 >](#)

ID	Location	Type	Habitat
17	On site	Associated Habitats	Other associated habitats
18	On site	Primary Habitat	Upland fens and flushes
19	On site	Network Enhancement Zone 1	Not specified
20	On site	Network Enhancement Zone 1	Not specified
21	On site	Habitat Restoration-Creation	Not specified
22	On site	Habitat Restoration-Creation	Not specified
23	On site	Habitat Restoration-Creation	Not specified
24	On site	Habitat Restoration-Creation	Not specified
25	On site	Habitat Restoration-Creation	Not specified
A	On site	Restorable Habitat	Not specified
B	On site	Primary Habitat	Purple moor grass and rush pasture
C	97m N	Network Enhancement Zone 1	Not specified
D	147m NE	Network Enhancement Zone 1	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

1

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.

Features are displayed on the Habitat designations map on [page 116 >](#)



ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
26	On site	HLD_refs: EAHLD3555 4	Low	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography	-

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

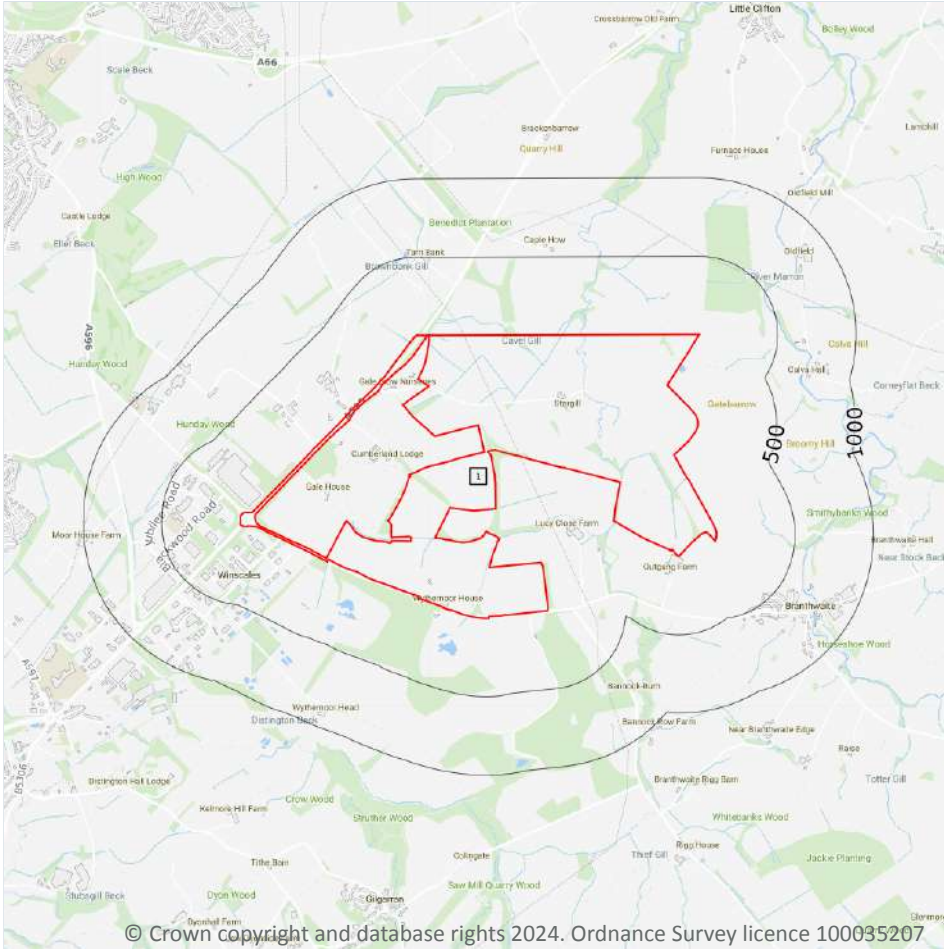
0

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

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 121](#) >

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

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

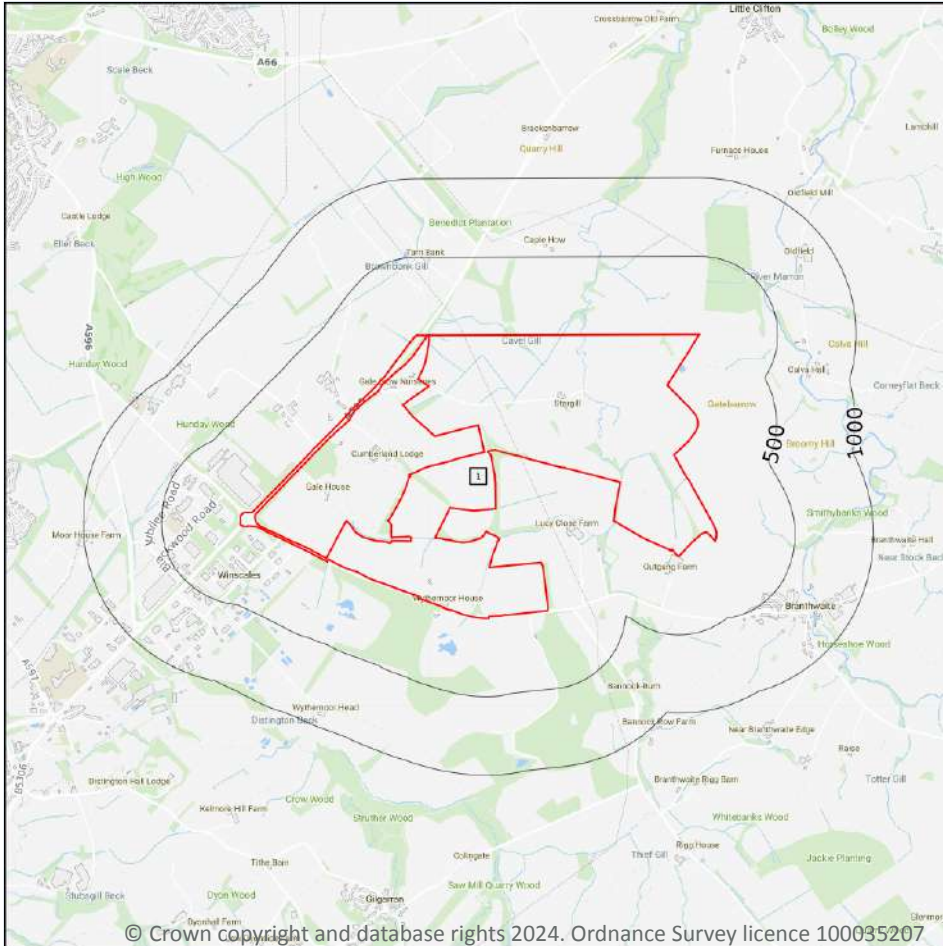
0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

□ Geological map tile

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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 125 >](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW028_whitehaven_v4

This data is sourced from the British Geological Survey.



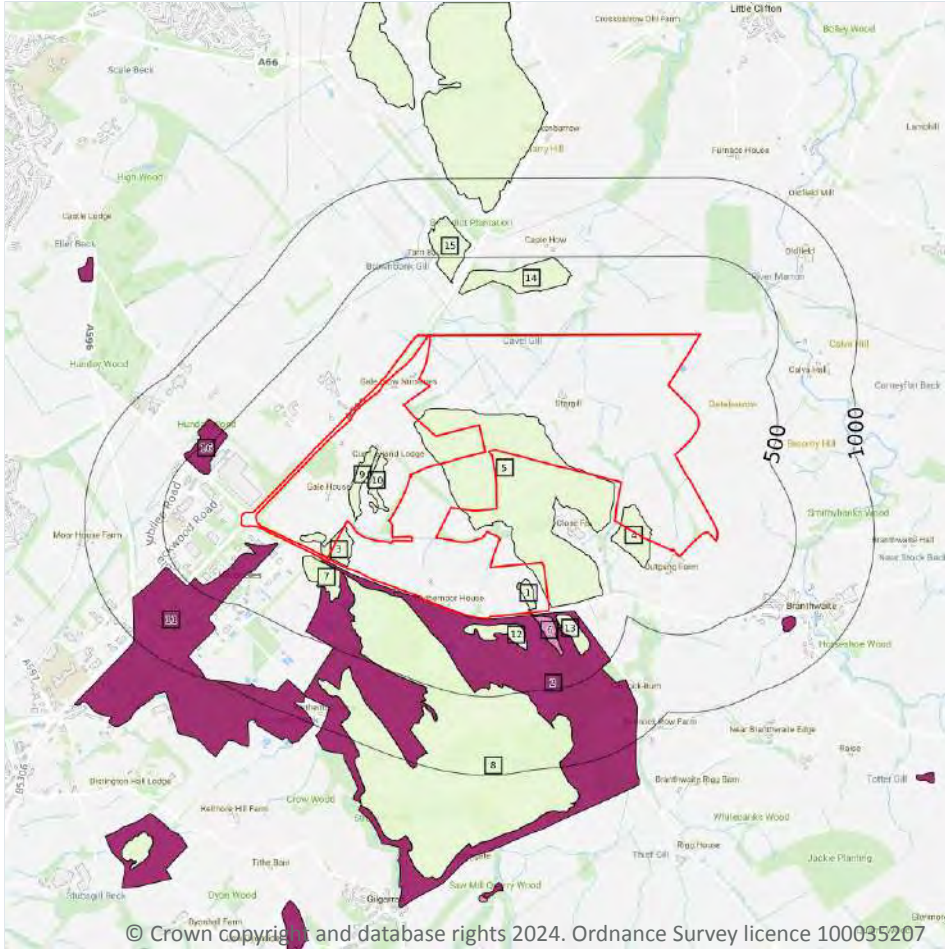
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 23 April 2024

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



15.2 Artificial and made ground (50k)

Records within 500m

16

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 126 >](#)

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



ID	Location	LEX Code	Description	Rock description
5	On site	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
6	15m S	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
7	18m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
8	35m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
9	37m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
10	37m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
11	41m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
12	42m S	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
13	63m S	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
14	260m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
15	335m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
16	339m W	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

15

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
On site	Mixed	Very High	Low
On site	Mixed	Very High	Low
On site	Mixed	Very High	Low
On site	Mixed	Very High	Low
On site	Mixed	Very High	Low
On site	Mixed	Very High	Low
18m SW	Mixed	Very High	Low

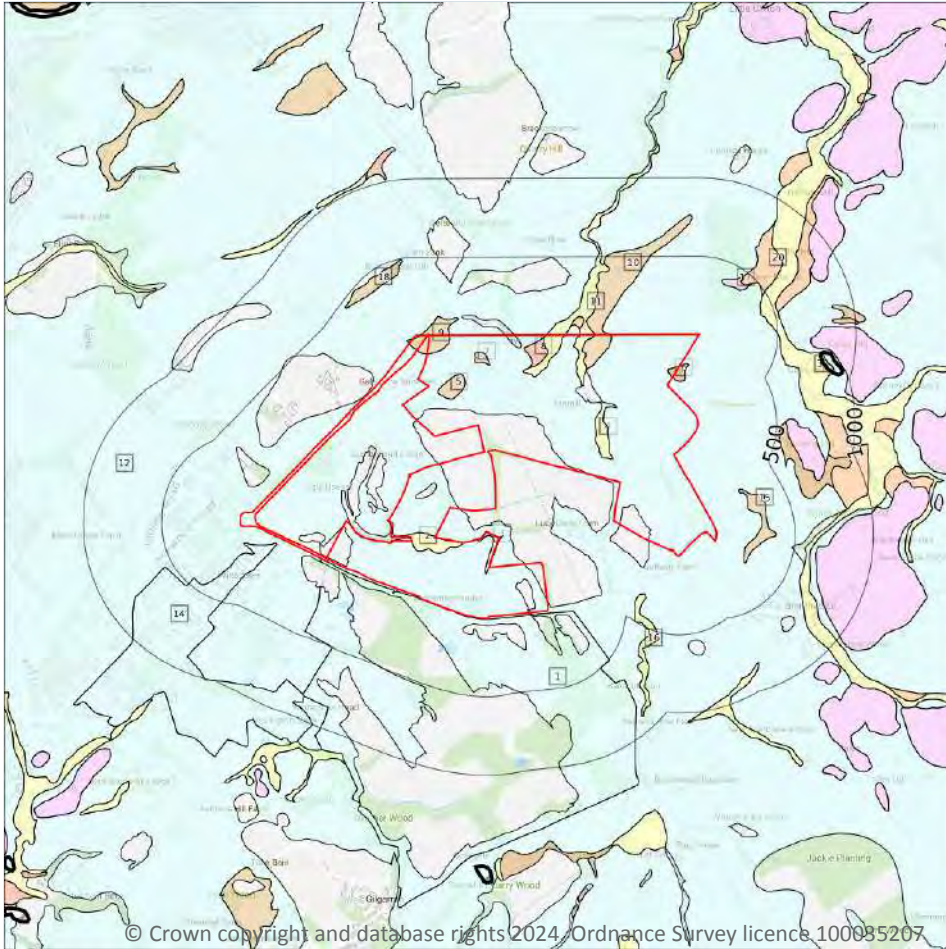


Location	Flow type	Maximum permeability	Minimum permeability
35m SW	Mixed	Very High	Low
37m W	Mixed	Very High	Low
37m W	Mixed	Very High	Low
41m W	Mixed	Very High	Low
42m S	Mixed	Very High	Low
47m SW	Mixed	Very High	Low

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

20

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 129 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
5	On site	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
6	On site	PEAT-P	PEAT	PEAT
7	On site	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
8	On site	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
9	On site	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
10	On site	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
11	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
12	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
13	37m N	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
14	41m W	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
15	196m SE	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
16	322m SE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
17	355m NE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
18	388m NW	LAT-XCZ	LACUSTRINE ALLUVIUM	CLAY AND SILT
19	413m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
20	425m NE	RTD1-XCSV	RIVER TERRACE DEPOSITS, 1	CLAY, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

14

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	Intergranular	High	Very Low
On site	Intergranular	High	Very Low
On site	Intergranular	High	Very Low
On site	Intergranular	High	Very Low



Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Intergranular	Very High	High
On site	Mixed	High	Low
On site	Mixed	High	Low
On site	Mixed	High	Low
37m N	Intergranular	Low	Very 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

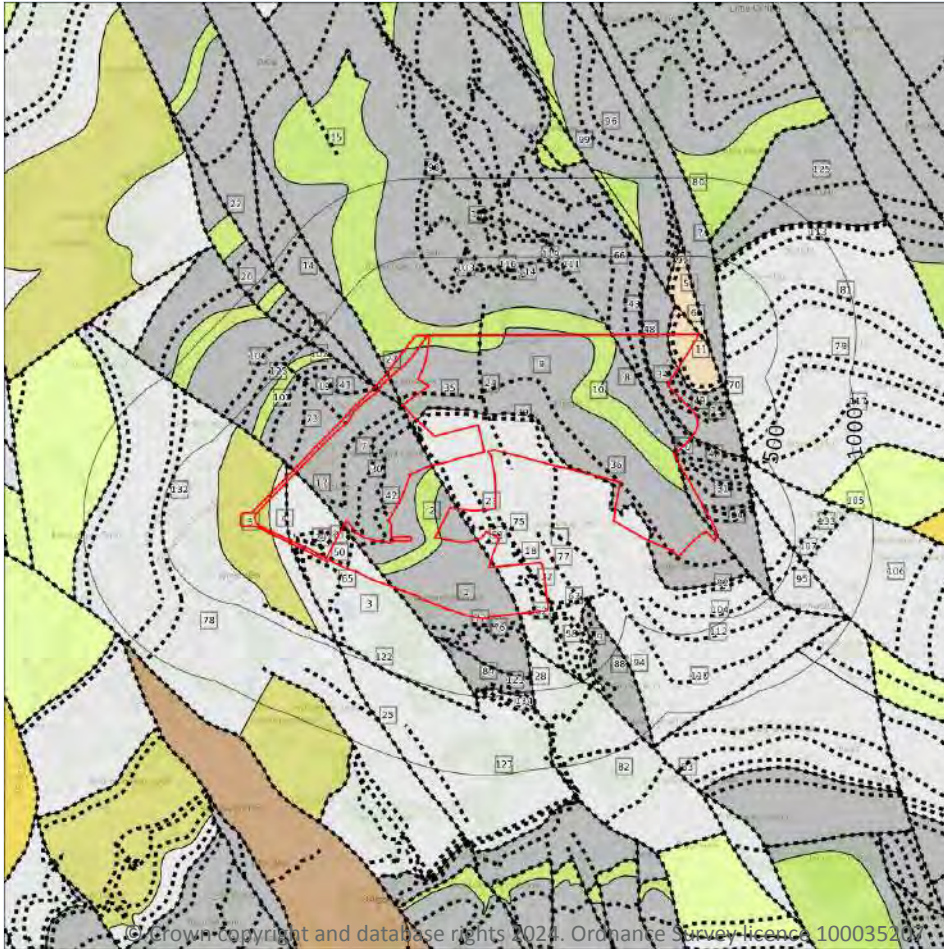
0

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

31

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 132 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
3	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	On site	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
6	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
9	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
11	On site	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
12	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
14	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
15	On site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
16	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
59	4m NE	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
71	42m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
78	142m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
79	155m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
82	180m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
84	190m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
88	220m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
95	262m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
96	263m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
101	284m W	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
102	305m NW	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
106	327m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
109	346m W	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
125	437m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
127	448m S	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

12

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	Moderate	Low
On site	Fracture	Moderate	Low
On site	Fracture	Moderate	Low
On site	Fracture	Moderate	Low



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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	103
----------------------------	------------

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 132 >](#)

ID	Location	Category	Description
17	On site	FAULT	Fault, inferred, displacement unknown
18	On site	FAULT	Fault, inferred, displacement unknown
19	On site	FAULT	Fault, inferred, displacement unknown
20	On site	FAULT	Fault, inferred, displacement unknown
21	On site	FAULT	Fault, inferred, displacement unknown
22	On site	FAULT	Fault, inferred, displacement unknown
23	On site	FAULT	Fault, inferred, displacement unknown
24	On site	FAULT	Fault, inferred, displacement unknown
25	On site	FAULT	Fault, inferred, displacement unknown
26	On site	FAULT	Fault, inferred, displacement unknown
27	On site	FAULT	Fault, inferred, displacement unknown
28	On site	FAULT	Fault, inferred, displacement unknown



ID	Location	Category	Description
29	On site	FAULT	Fault, inferred, displacement unknown
30	On site	ROCK	Coal seam, inferred
31	On site	ROCK	Coal seam, inferred
32	On site	ROCK	Coal seam, inferred
33	On site	ROCK	Coal seam, inferred
34	On site	FOSSIL_HORIZON	Marine band
35	On site	ROCK	Coal seam, inferred
36	On site	ROCK	Coal seam, inferred
37	On site	ROCK	Coal seam, inferred
38	On site	ROCK	Coal seam, inferred
39	On site	ROCK	Coal seam, inferred
40	On site	ROCK	Coal seam, inferred
41	On site	ROCK	Coal seam, inferred
42	On site	ROCK	Coal seam, inferred
43	On site	ROCK	Coal seam, inferred
44	On site	ROCK	Coal seam, inferred
45	On site	FOSSIL_HORIZON	Marine band
46	On site	FOSSIL_HORIZON	Marine band
47	On site	ROCK	Coal seam, inferred
48	On site	ROCK	Coal seam, inferred
49	On site	ROCK	Coal seam, inferred
50	On site	ROCK	Coal seam, inferred
51	On site	ROCK	Coal seam, inferred
52	On site	ROCK	Coal seam, inferred
53	On site	ROCK	Coal seam, inferred
54	On site	ROCK	Coal seam, inferred
55	On site	ROCK	Coal seam, inferred
56	On site	ROCK	Coal seam, inferred



ID	Location	Category	Description
57	3m W	ROCK	Coal seam, inferred
58	4m S	FAULT	Fault, inferred, displacement unknown
60	4m NE	FAULT	Fault, inferred, displacement unknown
61	4m E	ROCK	Coal seam, inferred
62	10m W	ROCK	Coal seam, inferred
63	10m S	ROCK	Coal seam, inferred
64	18m S	ROCK	Coal seam, inferred
65	23m SW	ROCK	Coal seam, inferred
66	35m NE	ROCK	Coal seam, inferred
67	35m S	ROCK	Coal seam, inferred
68	38m W	FAULT	Fault, inferred, displacement unknown
69	41m S	ROCK	Coal seam, inferred
70	42m NE	FAULT	Fault, inferred, displacement unknown
72	42m S	ROCK	Coal seam, inferred
73	58m W	ROCK	Coal seam, inferred
74	59m S	ROCK	Coal seam, inferred
75	69m S	ROCK	Coal seam, inferred
76	69m S	ROCK	Coal seam, inferred
77	74m S	FAULT	Fault, inferred, displacement unknown
80	155m NE	FAULT	Fault, inferred, displacement unknown
81	159m NE	ROCK	Coal seam, inferred
83	180m S	FAULT	Fault, inferred, displacement unknown
85	190m SW	FAULT	Fault, inferred, displacement unknown
86	200m W	ROCK	Coal seam, inferred
87	219m NE	ROCK	Coal seam, inferred
89	220m S	FOSSIL_HORIZON	Marine band
90	224m NW	ROCK	Coal seam, inferred
91	230m NE	ROCK	Coal seam, inferred



ID	Location	Category	Description
92	255m SE	ROCK	Coal seam, inferred
93	257m S	ROCK	Coal seam, inferred
94	262m S	FAULT	Fault, inferred, displacement unknown
97	263m NE	FOSSIL_HORIZON	Marine band
98	267m NW	ROCK	Coal seam, inferred
99	274m NE	FAULT	Fault, inferred, displacement unknown
100	278m E	ROCK	Coal seam, inferred
103	318m NW	ROCK	Coal seam, inferred
104	322m SE	ROCK	Coal seam, inferred
105	326m E	FAULT	Fault, inferred, displacement unknown
107	328m E	FAULT	Fault, inferred, displacement unknown
108	328m E	ROCK	Coal seam, inferred
110	346m SE	ROCK	Coal seam, inferred
111	347m N	ROCK	Coal seam, inferred
112	356m SE	ROCK	Coal seam, inferred
113	361m NE	ROCK	Coal seam, inferred
114	363m N	ROCK	Coal seam, inferred
115	379m SE	ROCK	Coal seam, inferred
116	406m N	ROCK	Coal seam, inferred
117	412m E	ROCK	Coal seam, inferred
118	414m N	ROCK	Coal seam, inferred
119	414m N	ROCK	Coal seam, inferred
120	415m NE	ROCK	Coal seam, inferred
121	419m S	ROCK	Coal seam, inferred
122	424m SW	FAULT	Fault, inferred, displacement unknown
123	424m W	ROCK	Coal seam, inferred
124	424m NE	ROCK	Coal seam, inferred
126	437m NE	FOSSIL_HORIZON	Marine band

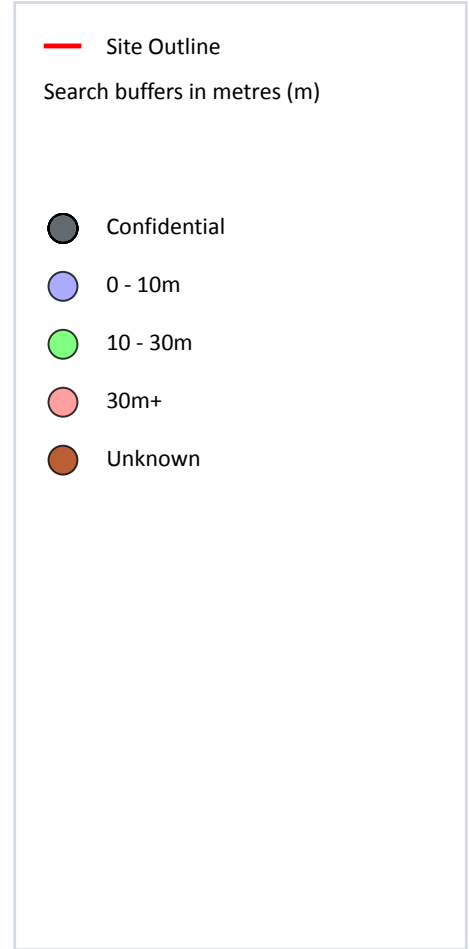
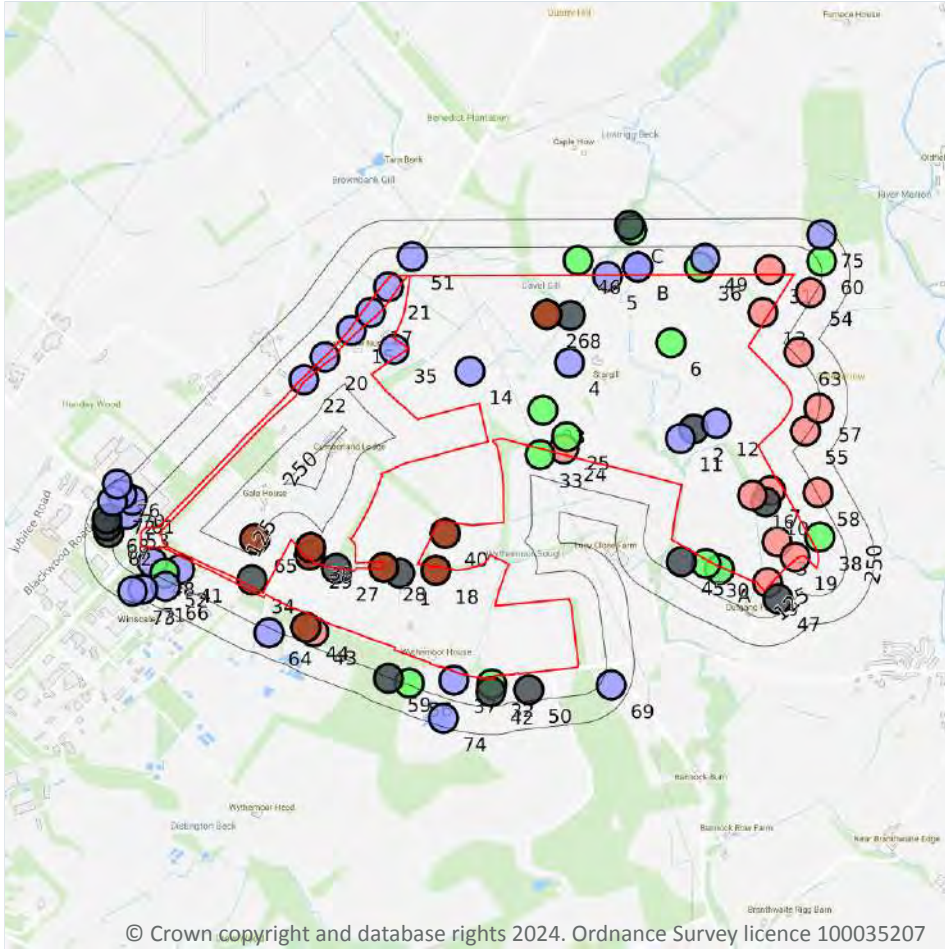


ID	Location	Category	Description
128	448m S	FOSSIL_HORIZON	Marine band
129	453m SE	ROCK	Coal seam, inferred
130	465m S	ROCK	Coal seam, inferred
131	473m NW	ROCK	Coal seam, inferred
132	483m W	ROCK	Coal seam, inferred
133	495m E	ROCK	Coal seam, inferred
134	496m S	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

82

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 140 >](#)

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	303443 525344	NO. 3 PIT - OLD AIR PIT	-	Y	N/A
2	On site	304758 525987	BRANTHWAITE HALL 1	-	Y	N/A
3	On site	305130 525480	LOSTRIGG OPENCASIT SITE 032095	85.5	N	772234 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
4	On site	304202 526284	LOSTRIGG O.C.C.S. 7068	2.8	N	821148 ↗
5	On site	304370 526672	LOSTRIGG O.C.C.S. 7069	7.0	N	821149 ↗
6	On site	304656 526375	LOSTRIGG O.C.C.S. 7085	13.1	N	821161 ↗
7	On site	305101 525711	OUTGANG OPENCAST SITE	41.55	N	772235 ↗
8	On site	304206 526499	STARGILL	-	Y	N/A
9	On site	305090 525300	LOSTRIGG OPENCAST SITE 032095	79.2	N	772233 ↗
10	On site	305082 525660	LOSTRIGG O.C.C.S. 7072	-	Y	N/A
11	On site	304698 525945	LOSTRIGG O.C.C.S. 7071	5.0	N	821151 ↗
12	On site	304861 526013	LOSTRIGG O.C.C.S. 7070	6.9	N	821150 ↗
13	On site	305070 526510	OUTGANG OPENCAST SITE 032049	101.25	N	772213 ↗
14	On site	303756 526245	LOSTRIGG O.C.C.S. 7067	5.0	N	821147 ↗
15	On site	303227 526431	A595 GALEBROW-WINSKALE IMPROVEMENT	2.44	N	820800 ↗
16	On site	305020 525690	BRANTHWAITE BH6	79.55	N	771999 ↗
17	On site	303309 526512	A595 GALEBROW-WINSKALE IMPROVEMENT	3.66	N	820801 ↗
18	On site	303603 525354	NO. 2	-1.0	N	820788 ↗
19	On site	305211 525414	BRANTHWAITE HALL 2	116.61	N	772016 ↗
20	On site	303108 526311	A595 GALEBROW-WINSKALE IMPROVEMENT	3.66	N	820799 ↗
21	On site	303391 526625	A595 GALEBROW-WINSKALE IMPROVEMENT	4.88	N	820802 ↗
22	On site	303011 526208	A595 GALEBROW-WINSKALE IMPROVEMENT	3.66	N	820798 ↗
23	On site	304081 526071	LOST RIGG O.C.C.S. 7	28.5	N	18068116 ↗
24	On site	304177 525899	LOST RIGG O.C.C.S. 9	31.7	N	18068118 ↗
25	On site	304191 525953	LOST RIGG O.C.C.S. 8	23.5	N	18068117 ↗
26	On site	304100 526500	CLIFTON MOOR	-1.0	N	821018 ↗
27	0m SW	303157 525363	WYTHERMoor COLLY. OLD SHAFT	-	Y	N/A
28	0m SW	303368 525366	NO. 1	-1.0	N	820787 ↗
A	14m SE	304871 525358	LOST RIGG O.C.C.S. 10	1.0	N	18068119 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
A	15m SE	304871 525357	LOST RIGG O.C.C.S. 10A	24.5	N	18068120 ↗
29	15m SW	303037 525423	ANNIE PIT DRIFT B	-1.0	N	820926 ↗
30	17m SE	304815 525383	LOST RIGG O.C.C.S. 11	17.1	N	18068121 ↗
31	20m NE	305100 526700	LOSTRIGG OPENCAST SITE 032095	110.2	N	772230 ↗
32	25m S	303852 524845	POTATO POT O.C.C.S. G4	10.05	N	774267 ↗
33	26m SW	304069 525874	HARKER-EGRENANT 132KV LINE BH23	10.1	N	820950 ↗
34	29m SW	302780 525311	UN-NAMED PIT	-	Y	N/A
35	31m NW	303418 526343	LOSTRIGG O.C.C.S. 7066	6.0	N	821146 ↗
36	34m NE	304782 526713	CARR BECK AND LOSTRIGG BECK LB6	13.72	N	17322953 ↗
37	34m SW	303685 524864	POTATO POT O.C.C.S. G33	8.9	N	774296 ↗
B	34m NE	304506 526712	LOSTRIGG O.C.C.S. 7064	5.0	N	821144 ↗
B	36m NE	304507 526714	LOSTRIGG O.C.C.S. 7063	3.51	N	821143 ↗
38	38m E	305322 525502	OUTGANG OPENCAST SITE 080049	16.0	N	772237 ↗
39	45m W	303041 525458	ANNIE PIT DRIFT A	-1.0	N	820925 ↗
40	49m SW	303645 525522	NO. 3	-1.0	N	820789 ↗
41	54m W	302458 525357	LILLYHALL 7	3.35	N	820874 ↗
42	60m S	303850 524810	POTATO POT O/E 1805	-	Y	N/A
43	60m SW	303057 525080	BH 19	51.82	N	820786 ↗
44	60m SW	303023 525098	WYTHERMOOR COLLY. UPCAST SHAFT	-1.0	N	820942 ↗
45	64m SE	304705 525392	BRANTHWAITE OUTGANG	-	Y	N/A
46	65m N	304240 526742	LOSTRIGG O.C.C.S. 7065	11.3	N	821145 ↗
47	68m SE	305135 525228	LOSTRIGG O.C.C.S. 7073	-	Y	N/A
48	70m W	302332 525388	LILLYHALL 6	3.65	N	820873 ↗
49	74m NE	304809 526753	LOSTRIGG O.C.C.S. 7062	3.65	N	821142 ↗
50	75m S	304020 524820	POTATO POT O/E 1801	-	Y	N/A
51	87m NW	303495 526761	A595 GALEBROW-WINSCALE IMPROVEMENT	2.13	N	820803 ↗
52	99m W	302390 525340	LILLYHALL INDUSTRIAL ESTATE	11.05	N	820876 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
53	102m W	302217 525605	A595 GALEBROW-WINSCALE IMPROVEMENT	1.83	N	820805 ↗
54	104m NE	305280 526600	OUTGANG OPENCAST SITE 032049	70.0	N	772212 ↗
55	109m E	305260 525980	BRANTWAITE HALL GATEBARROW	141.65	N	772000 ↗
56	118m SW	303485 524849	POTATO POT O.C.C.S. G3	11.3	N	774266 ↗
57	123m E	305320 526080	LOSTRIGG OPENCAST SITE 032095	116.0	N	772231 ↗
58	127m E	305313 525702	OUTGANG OPENCAST SITE 080049	40.85	N	772236 ↗
59	129m SW	303390 524870	POTATO POT O/E 1800	-	Y	N/A
60	137m NE	305330 526740	OUTGANG OPENCAST SITE 032049	10.6	N	772227 ↗
61	138m W	302242 525668	BL FACTORY LILLYHALL 7	5.0	N	20631728 ↗
62	142m W	302139 525525	MILLSON ENGINEERING	-	Y	N/A
63	143m E	305230 526330	OUTGANG OPENCAST SITE 032049	102.7	N	772211 ↗
64	144m SW	302856 525076	POTATO POT O.C.C.S. G1	9.0	N	821139 ↗
65	145m W	302791 525493	NO. 10	-1.0	N	820790 ↗
66	151m W	302394 525281	LILLYHALL 5	5.18	N	820872 ↗
67	154m W	302131 525554	MILLSON ENGINEERING	-	Y	N/A
68	164m W	302129 525582	MILLSON ENGINEERING	-	Y	N/A
69	171m S	304390 524840	POTATO POT O.C.C.S. G5	8.75	N	774268 ↗
70	181m W	302198 525693	BL FACTORY LILLYHALL 6	5.0	N	20631727 ↗
71	186m W	302290 525270	LILLYHALL INDUSTRIAL ESTATE	7.2	N	820877 ↗
72	186m W	302156 525663	A595 GALEBROW-WINSCALE IMPROVEMENT	5.49	N	820806 ↗
73	202m W	302245 525261	LILLYHALL 4	5.48	N	820871 ↗
C	203m N	304481 526881	CARR BECK AND LOSTRIGG BECK LB7	26.36	N	17322954 ↗
74	214m S	303639 524690	POTATO POT O.C.C.S. G7	6.8	N	774270 ↗
75	218m NE	305330 526860	OUTGANG OPENCAST SITE 032049	7.53	N	772225 ↗
C	221m N	304471 526899	DAVIDSON'S DIAMOND	-	Y	N/A
76	233m W	302176 525740	BL FACTORY LILLYHALL 5	5.0	N	20631726 ↗



This data is sourced from the British Geological Survey.



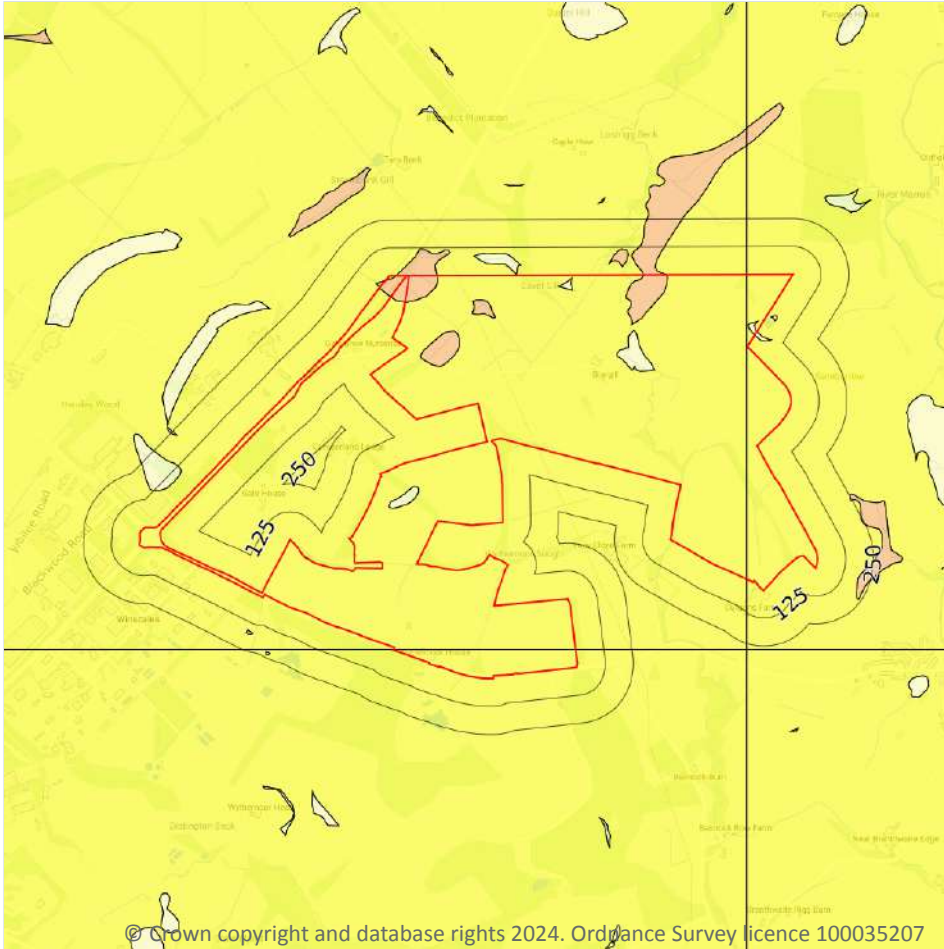
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Date: 23 April 2024

17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

6

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 145 >](#)

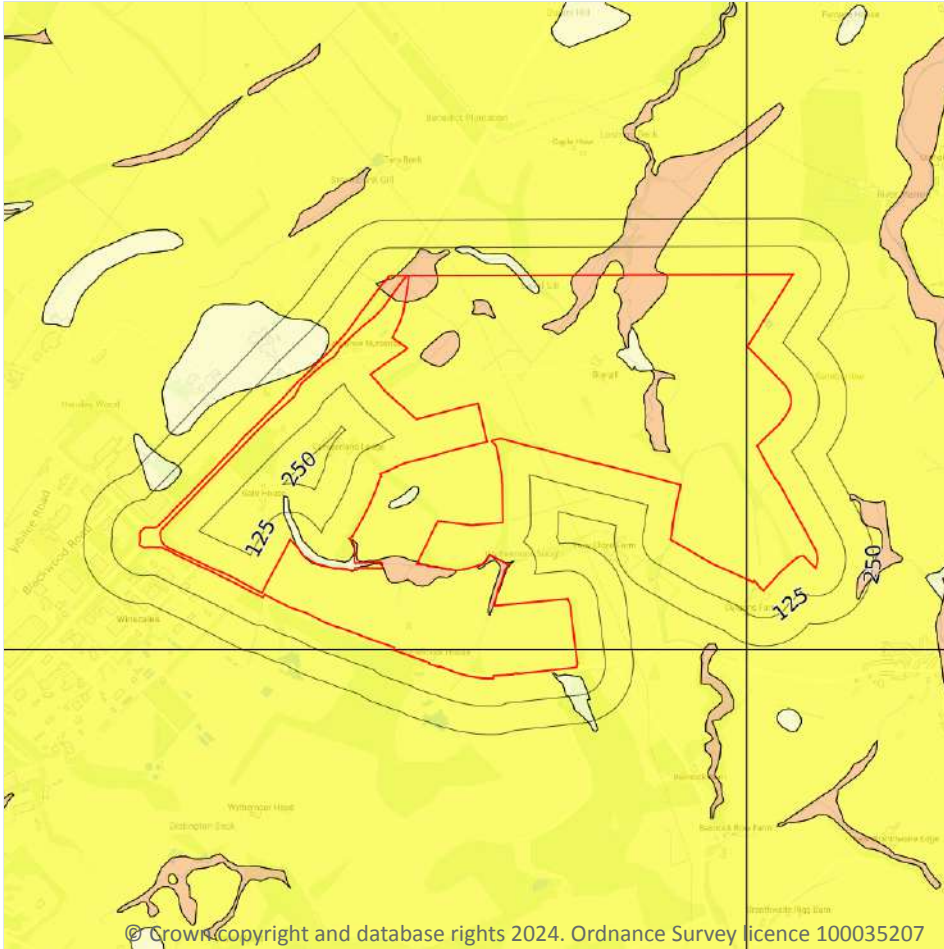
Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
On site	Low	Ground conditions predominantly medium plasticity.

Location	Hazard rating	Details
5m N	Negligible	Ground conditions predominantly non-plastic.
20m NE	Negligible	Ground conditions predominantly non-plastic.
37m N	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

5

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 147 >](#)

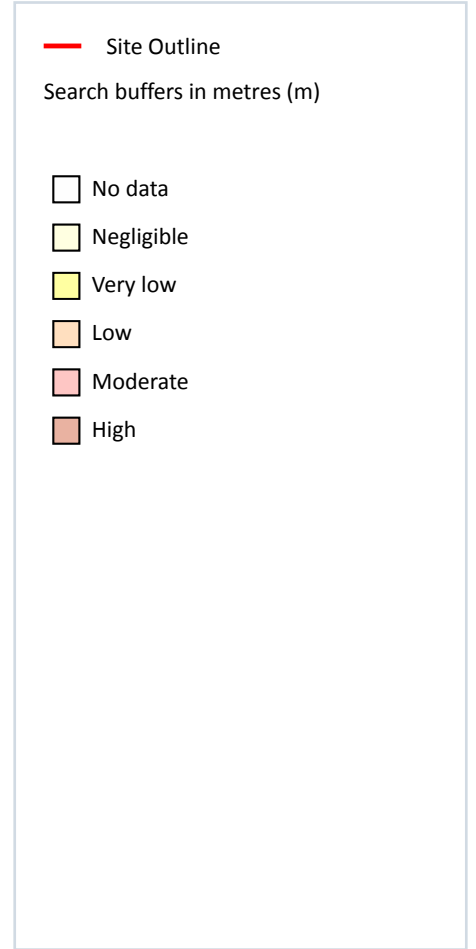
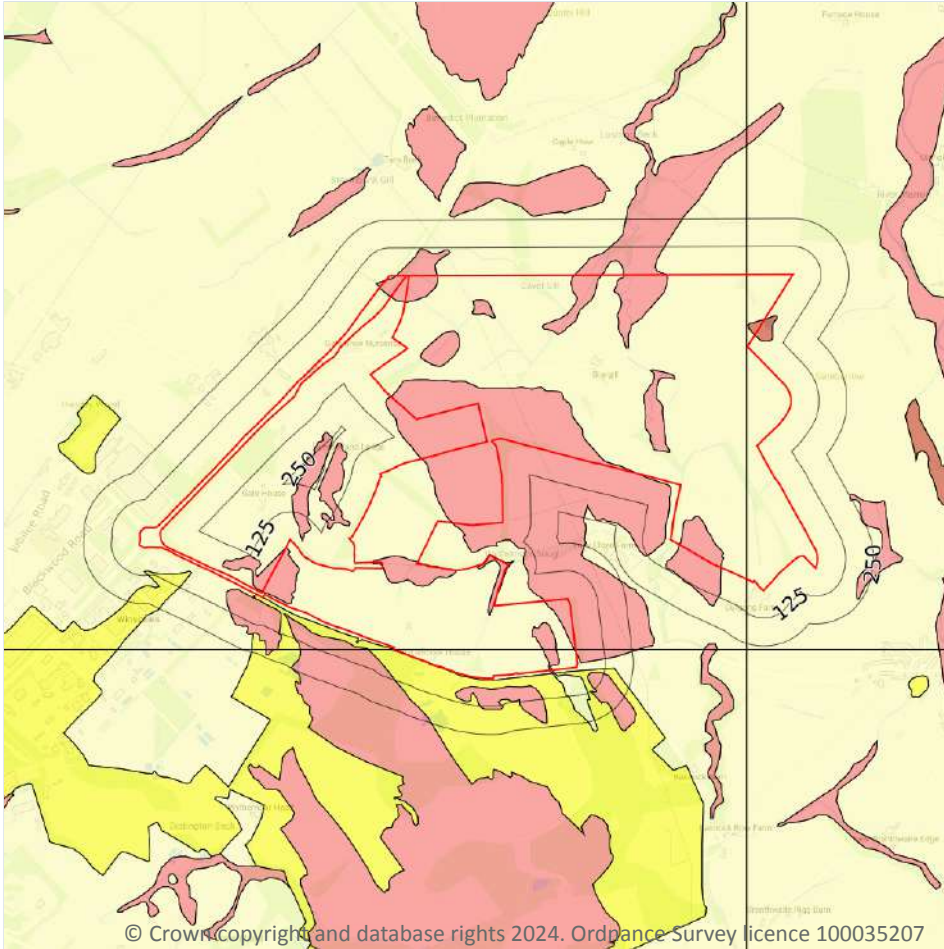
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
5m W	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.
15m S	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

12

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 149](#) >

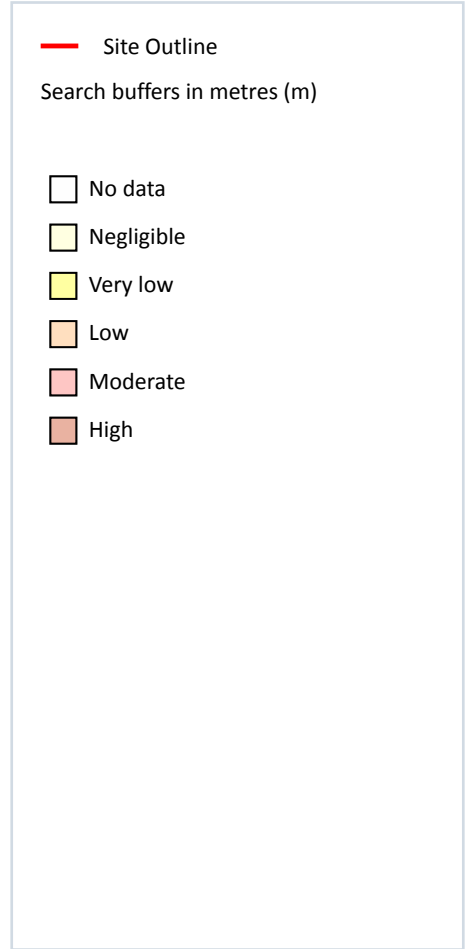
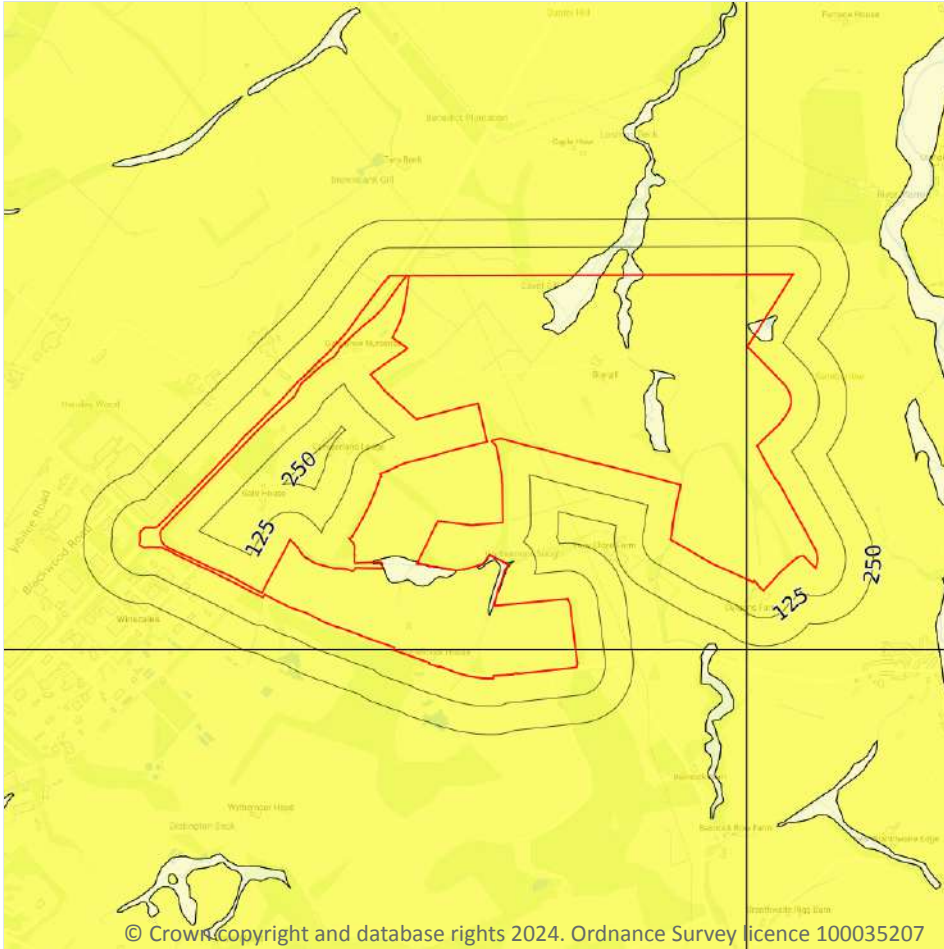
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

Location	Hazard rating	Details
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
On site	High	Highly compressible strata present. Significant constraint on land use depending on thickness.
15m S	Negligible	Compressible strata are not thought to occur.
18m SW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
35m SW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
37m W	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
37m W	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
41m W	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.
42m S	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
47m SW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

2

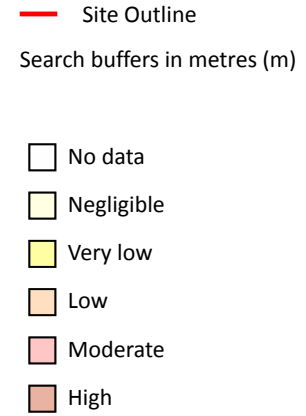
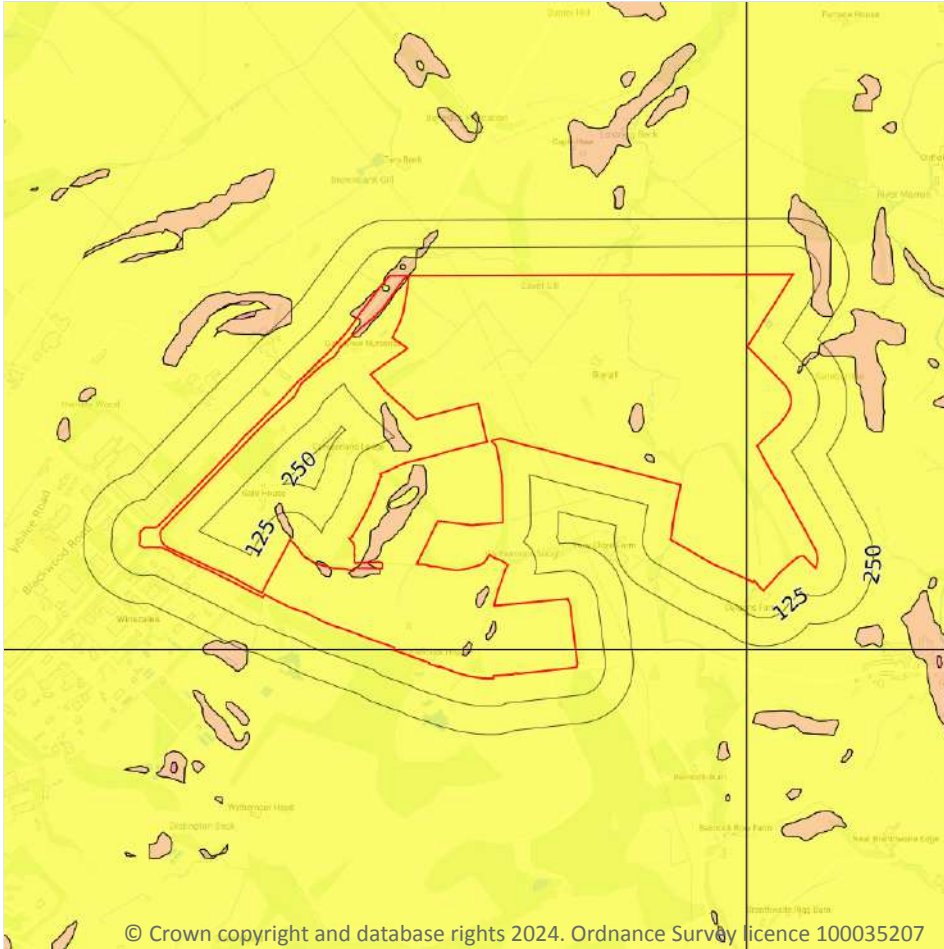
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 151 >](#)

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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17.5 Landslides

Records within 50m

5

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 152 >](#)

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.

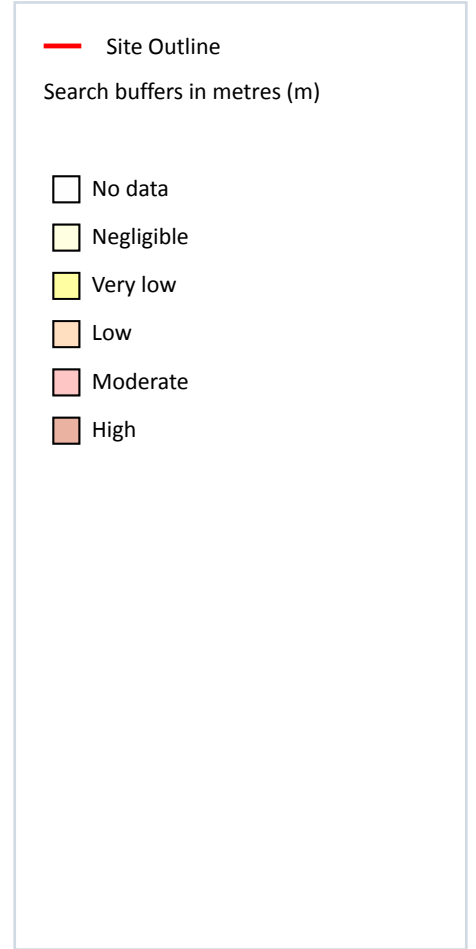
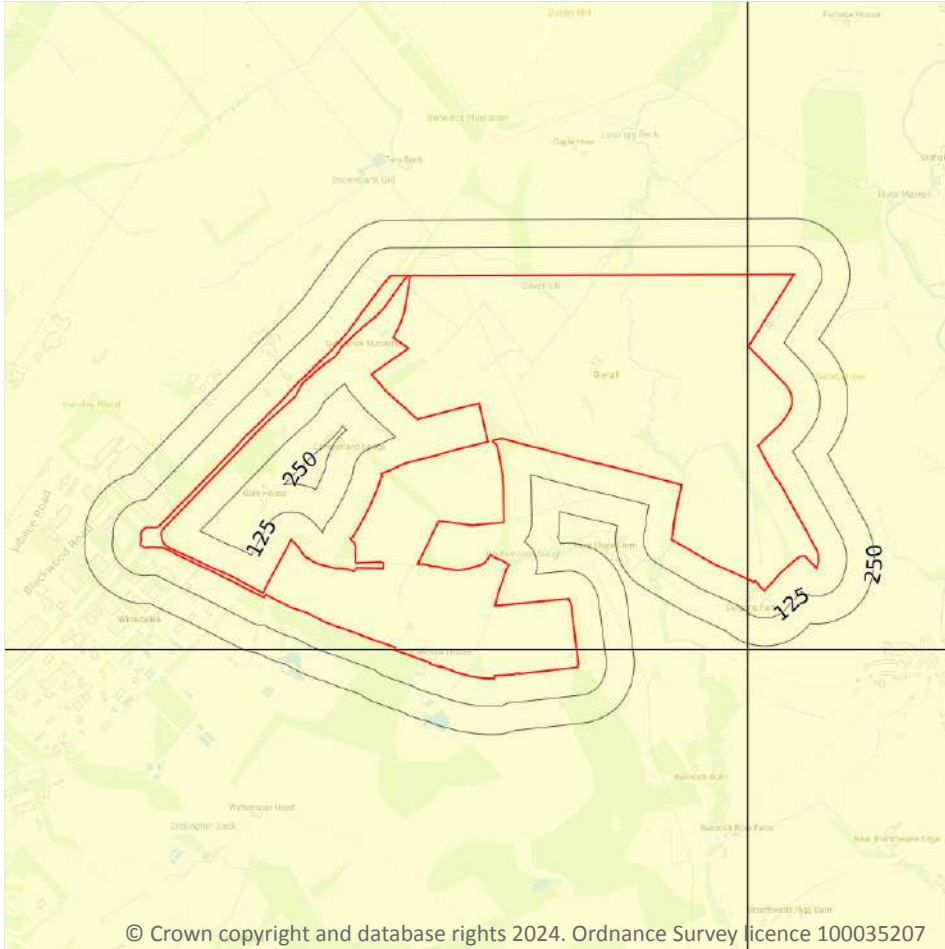


Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
10m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
29m NW	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.
35m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

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 154 >](#)

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.



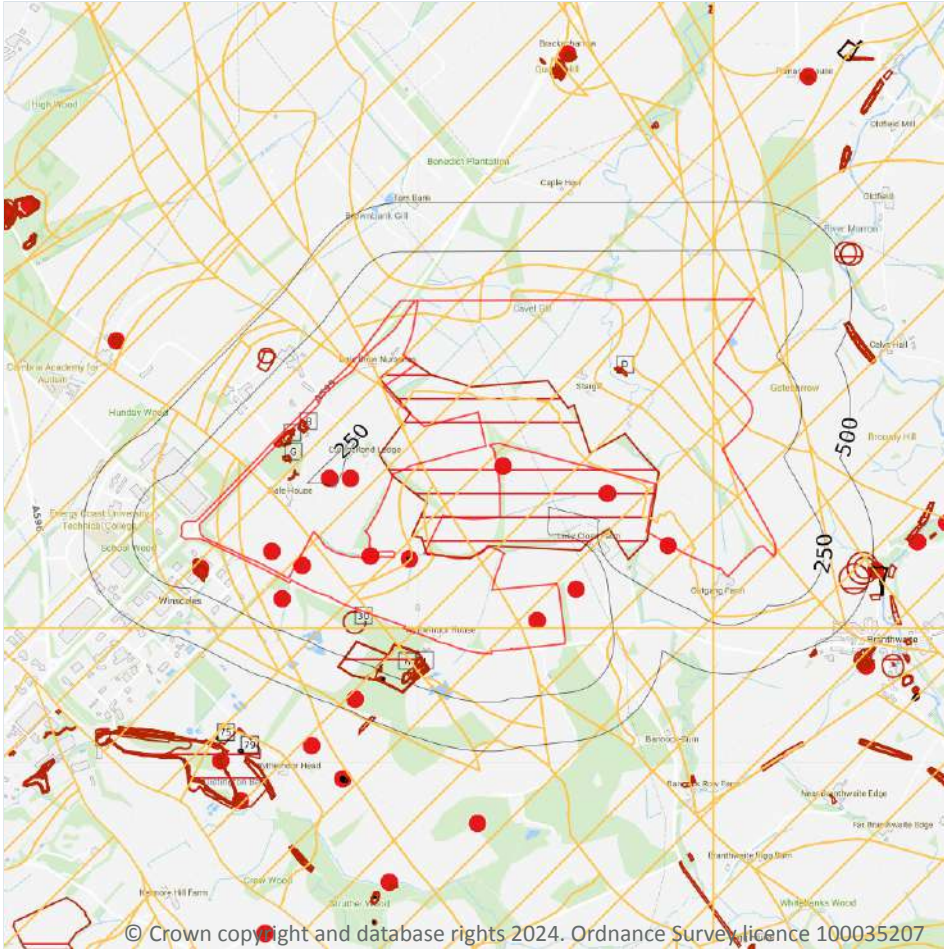
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info@groundsure.com ↗

01273 257 755

Date: 23 April 2024

18 Mining and ground workings



18.1 BritPits

Records within 500m

15

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

Features are displayed on the Mining and ground workings map on [page 156](#) >

ID	Location	Details	Description
1	On site	Name: Wythemoor House OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
2	On site	Name: Outgang OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
A	On site	Name: Wythemoor No. 3 Pit Address: Winscales, WORKINGTON, Cumbria 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
26	2m SW	Name: Wythemoor Pit Address: Winscales, WORKINGTON, Cumbria 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
27	3m SW	Name: Wythemoor Pit Address: Winscales, WORKINGTON, Cumbria 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



ID	Location	Details	Description
29	7m SE	Name: Outgang OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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	31m W	Name: Outgang OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
32	79m W	Name: Wythemoor House OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
33	90m S	Name: Outgang OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
34	90m SW	Name: Wythemoor House OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
35	107m SE	Name: Outgang OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
I	134m W	Name: Workington Moor Quarry Address: Winscales, WORKINGTON, Cumbria 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
41	197m W	Name: Wythemoor House OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
49	284m W	Name: Wythemoor House OCCS Address: Winscales, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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
56	436m SW	Name: Potatopot OCCS Address: Distington, WORKINGTON, Cumbria Commodity: Coal, Surface Mined 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.

18.2 Surface ground workings

Records within 250m

56

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

Features are displayed on the Mining and ground workings map on [page 156 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
B	On site	Pond	1951	1:10560
B	On site	Pond	1938	1:10560
C	On site	Ponds	1951	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
C	On site	Ponds	1947	1:10560
C	On site	Ponds	1898	1:10560
C	On site	Ponds	1938	1:10560
C	On site	Ponds	1864	1:10560
C	On site	Pond	1923	1:10560
C	On site	Pond	1923	1:10560
D	On site	Unspecified Pit	1947	1:10560
D	On site	Unspecified Pit	1951	1:10560
D	On site	Unspecified Pit	1981	1:10000
E	On site	Opencast Workings	1981	1:10000
B	0m W	Pond	1947	1:10560
B	0m W	Pond	1898	1:10560
B	1m W	Pond	1923	1:10560
B	1m W	Pond	1923	1:10560
30	12m SW	Unspecified Disused Pit	1898	1:10560
G	66m W	Ponds	1864	1:10560
G	76m W	Pond	1898	1:10560
H	91m SW	Colliery	1938	1:10560
H	91m SW	Colliery	1938	1:10560
F	93m SW	Colliery	1923	1:10560
F	93m SW	Colliery	1923	1:10560
F	93m SW	Colliery	1923	1:10560
F	93m SW	Colliery	1923	1:10560
I	102m W	Unspecified Pits	1923	1:10560
I	102m W	Unspecified Pits	1923	1:10560
I	102m W	Unspecified Pits	1923	1:10560
I	102m W	Unspecified Pits	1923	1:10560
I	104m W	Unspecified Pits	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
I	104m W	Unspecified Pits	1938	1:10560
I	110m W	Unspecified Pit	1947	1:10560
I	110m W	Unspecified Old Quarry	1898	1:10560
I	111m W	Unspecified Pits	1951	1:10560
J	112m SW	Refuse Heap	1938	1:10560
J	112m SW	Refuse Heap	1938	1:10560
J	114m SW	Refuse Heap	1947	1:10560
J	115m SW	Refuse Heap	1923	1:10560
J	115m SW	Refuse Heap	1923	1:10560
J	115m SW	Refuse Heap	1923	1:10560
J	115m SW	Refuse Heap	1923	1:10560
J	117m SW	Refuse Heap	1951	1:10560
J	120m SW	Unspecified Heap	1967	1:10560
I	130m W	Unspecified Pit	1864	1:10560
38	157m W	Ponds	1864	1:10560
K	202m SW	Refuse Heap	1923	1:10560
K	202m SW	Refuse Heap	1923	1:10560
K	202m SW	Refuse Heap	1923	1:10560
K	202m SW	Refuse Heap	1923	1:10560
K	214m SW	Refuse Heap	1951	1:10560
F	227m SW	Unspecified Heap	1898	1:10560
F	230m SW	Refuse Heap	1923	1:10560
F	230m SW	Refuse Heap	1923	1:10560
F	230m SW	Refuse Heap	1923	1:10560
F	230m SW	Refuse Heap	1923	1:10560

This is data is sourced from Ordnance Survey/Groundsure.



18.3 Underground workings

Records within 1000m

12

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 and ground workings map on [page 156 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Old Air Shaft	1898	1:10560
F	215m SW	Unspecified Old Shaft	1898	1:10560
F	221m SW	Unspecified Old Shaft	1947	1:10560
F	224m SW	Old Coal Shaft	1951	1:10560
F	273m SW	Unspecified Old Shaft	1947	1:10560
F	277m SW	Unspecified Old Shaft	1951	1:10560
Q	495m E	Disused Colliery	1927	1:10560
AA	821m SW	Old Coal Shaft	1947	1:10560
AA	822m SW	Old Coal Shaft	1951	1:10560
AA	829m SW	Unspecified Old Shaft	1898	1:10560
75	872m SW	Unspecified Shaft	1991	1:10000
79	888m SW	Unspecified Old Shaft	1898	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

61

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

Features are displayed on the Mining and ground workings map on [page 156 >](#)

ID	Location	Name	Commodity	Class	Likelihood
3	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
4	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
5	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
6	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
7	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
8	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
9	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
10	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
11	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
12	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
13	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
14	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
15	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
16	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
17	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
18	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
19	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
20	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
21	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
22	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
23	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
24	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
25	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
28	4m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
31	42m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
F	43m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
36	142m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
37	155m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
39	180m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
40	190m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
42	207m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
43	220m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
44	246m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
L	262m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
45	263m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
46	265m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
47	274m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
48	284m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
50	285m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
52	305m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
53	327m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
54	346m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
55	384m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
57	437m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
58	448m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
60	507m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
61	518m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
62	522m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
63	527m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
T	601m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
U	643m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
68	792m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
71	795m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
72	816m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
73	827m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
76	872m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
77	874m SE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
80	900m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
81	911m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
84	936m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
85	955m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

2

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



Location	Mineral type
435m E	Unspecified
470m E	Unspecified

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m **0**

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m **0**

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site **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.



18.13 Brine areas

Records on site

0

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

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

18.14 Gypsum areas

Records on site

0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site

0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site

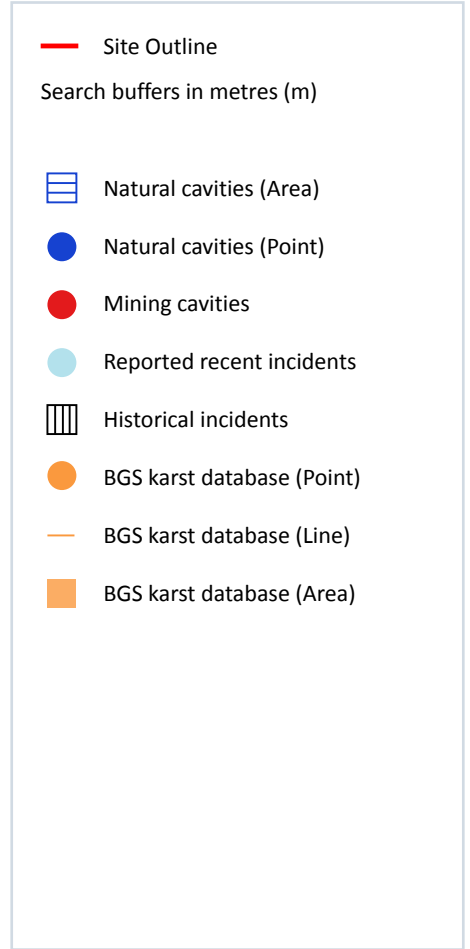
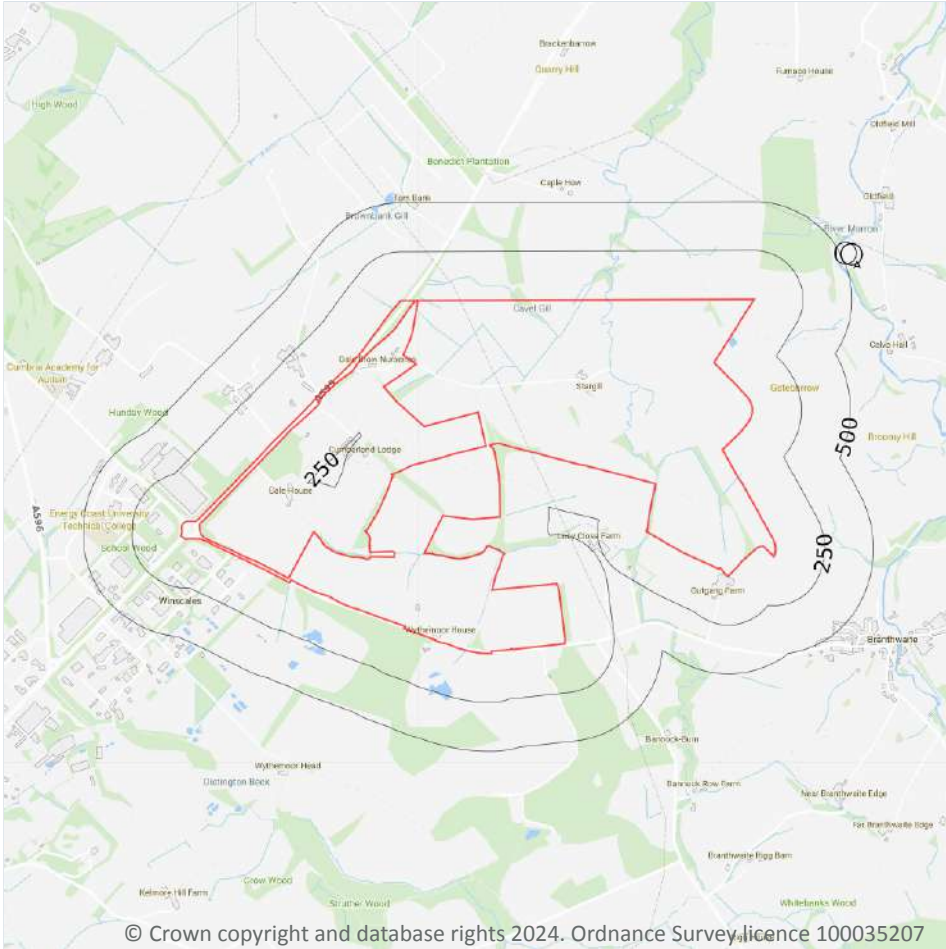
0

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

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



19 Ground cavities and sinkholes



19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

3

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

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

Features are displayed on the Ground cavities and sinkholes map on [page 173 >](#)

ID	Location	Type	Date of mapping
A	470m NE	Unspecified Hole	1864
A	495m NE	Unspecified Hole	1947
A	495m NE	Unspecified Hole	1898

This data is sourced from Groundsure.



19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

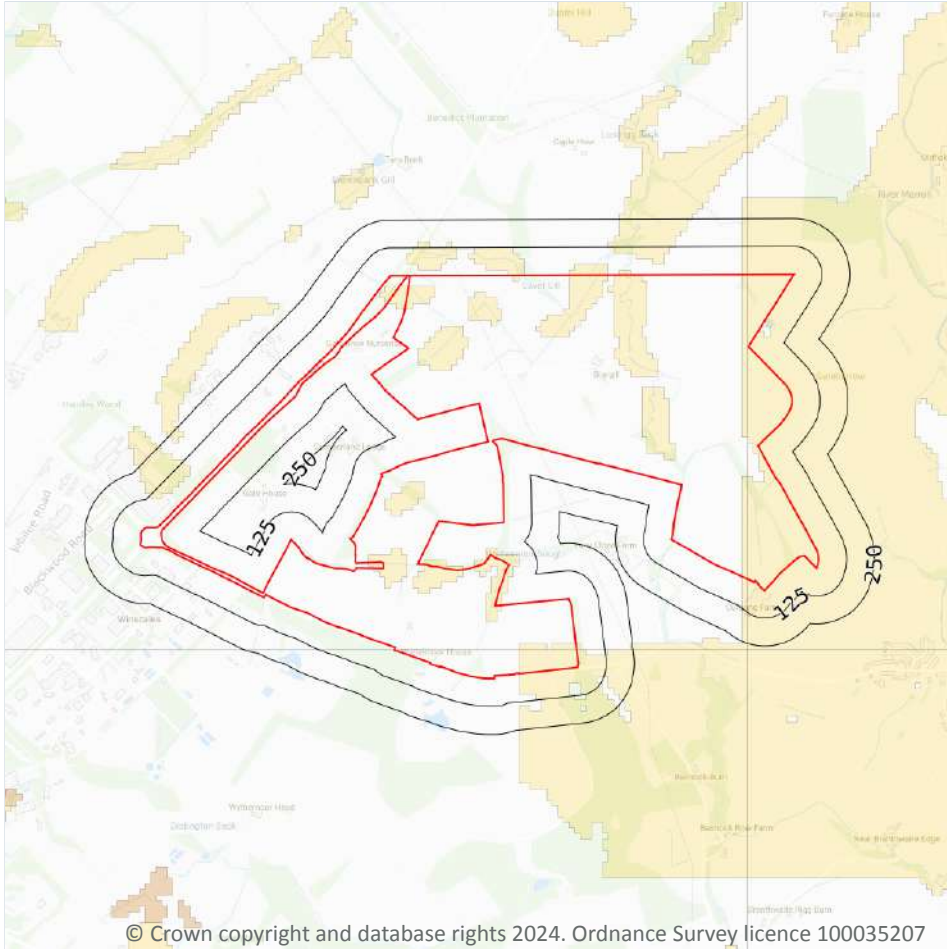
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



— Site Outline
Search buffers in metres (m)

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

20.1 Radon

Records on site

2

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

Features are displayed on the Radon map on [page 176 >](#)

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



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

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



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	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 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
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 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



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	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
0m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
3m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
4m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
5m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
5m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
8m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
8m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
10m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
11m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
14m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
15m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
15m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
16m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
16m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
16m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
18m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
20m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
22m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
23m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
26m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
26m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
27m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
29m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
31m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
31m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
31m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
31m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
33m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
35m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
37m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
37m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
37m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
37m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
37m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
41m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
41m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
41m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
42m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
43m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
43m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
44m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
45m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
45m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
46m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
47m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
47m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
48m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
48m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
48m 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.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

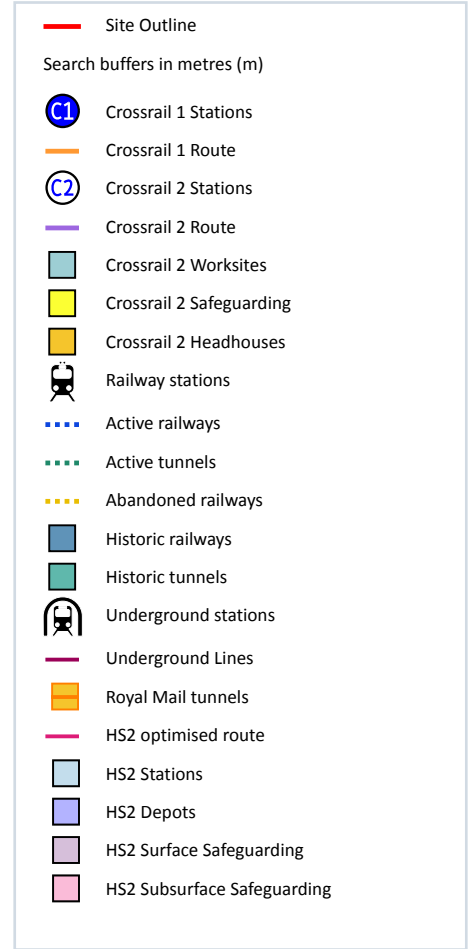
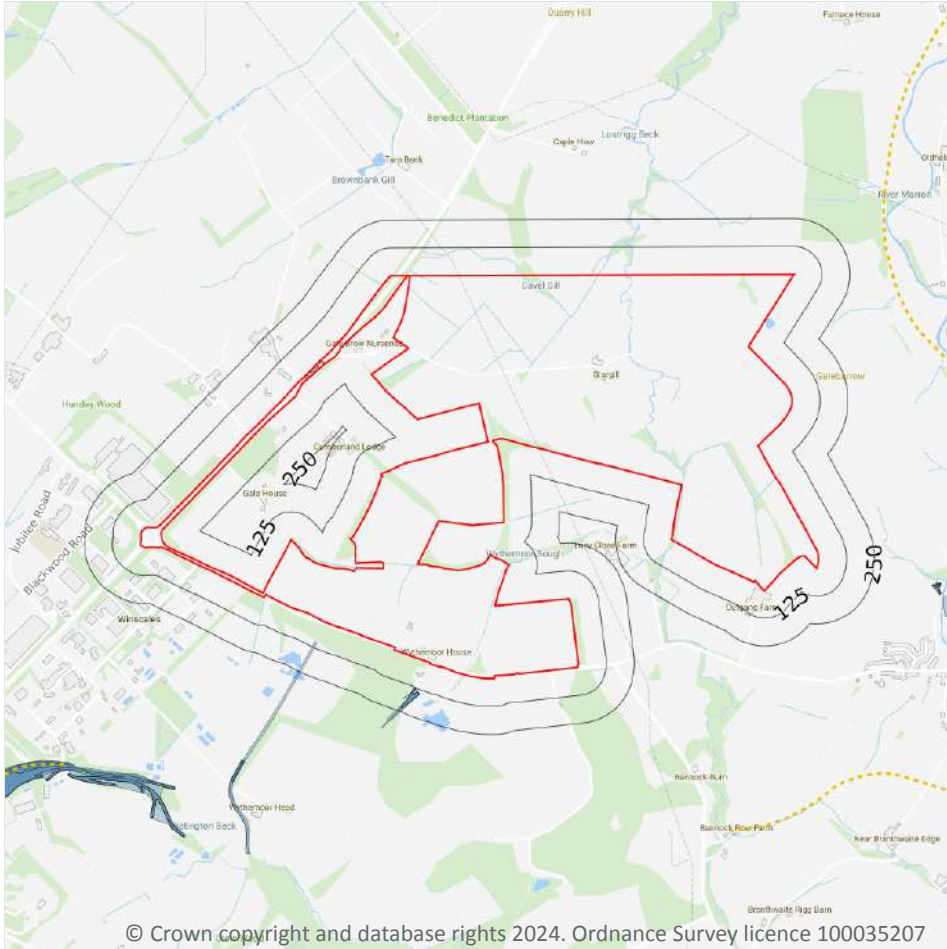
0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

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 189 >](#)

Location	Land Use	Year of mapping	Mapping scale
98m SW	Railway Sidings	1899	2500
125m SW	Mineral Railway Sidings	1938	10560
128m SW	Mineral Railway Sidings	1923	10560
131m SW	Mineral Railway Sidings	1925	2500

This data is sourced from Ordnance Survey/Groundsure.

22.5 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.



22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 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.

22.9 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.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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Site Details:

CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: County Series

Map date: 1864

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1864
 Edition N/A
 Copyright N/A
 Levelled N/A

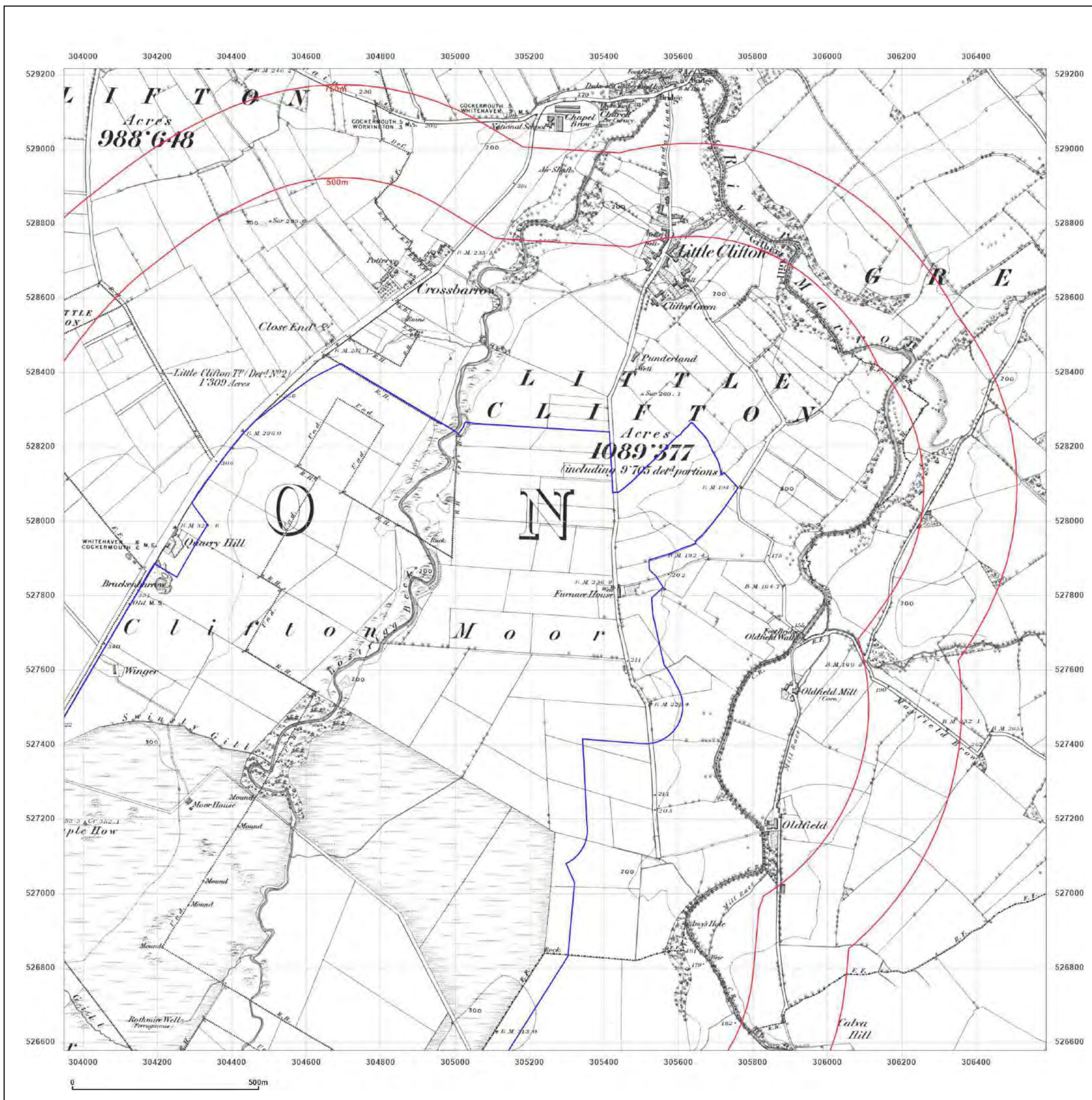


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 Groundsure Insights
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 E: info@groundsure.com
 W: www.groundsure.com

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Production date: 23 April 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: County Series

Map date: 1898-1899

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1863
 Revised 1899
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1864
 Revised 1898
 Edition N/A
 Copyright N/A
 Levelled N/A

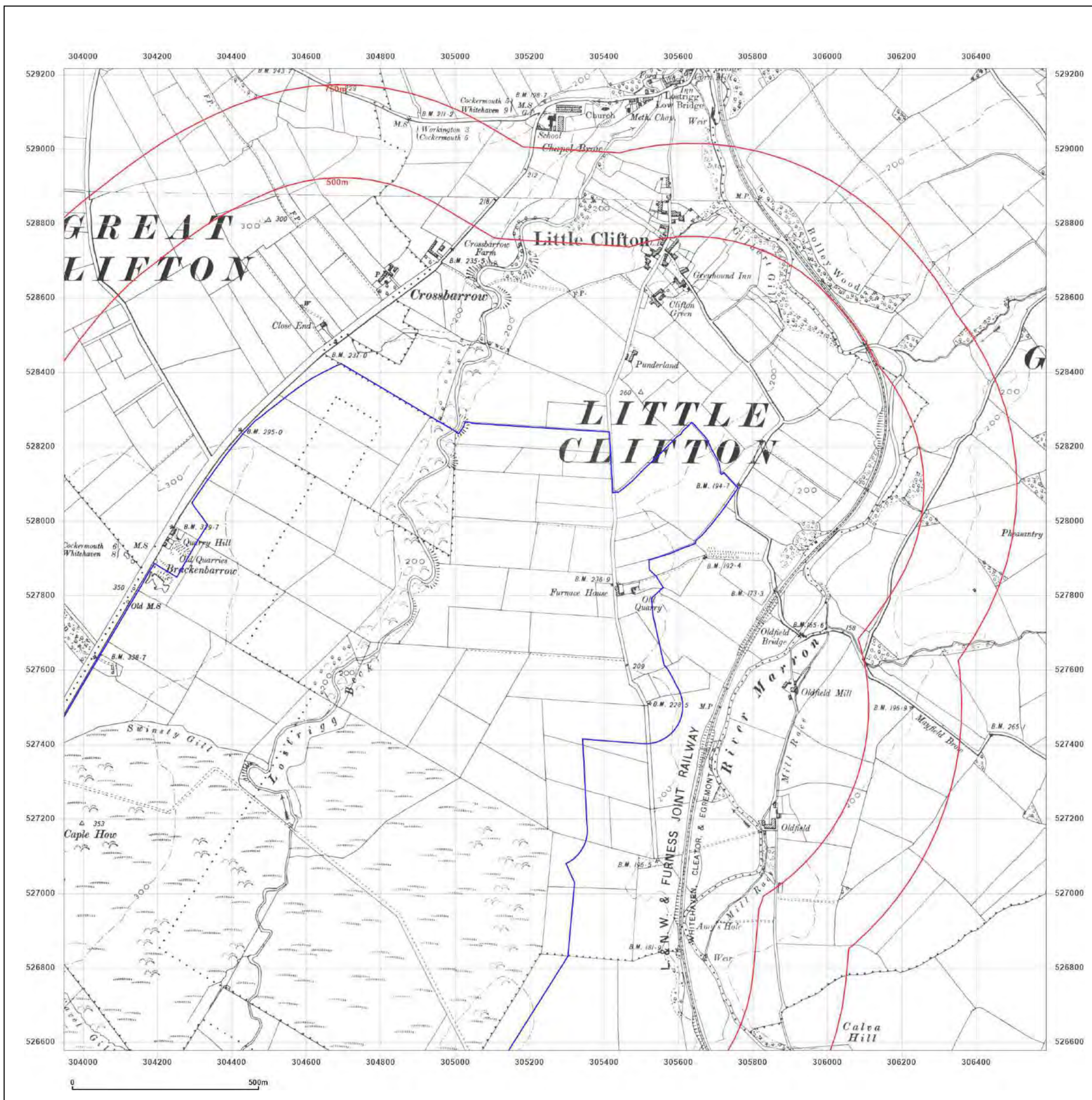


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Site Details:

CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

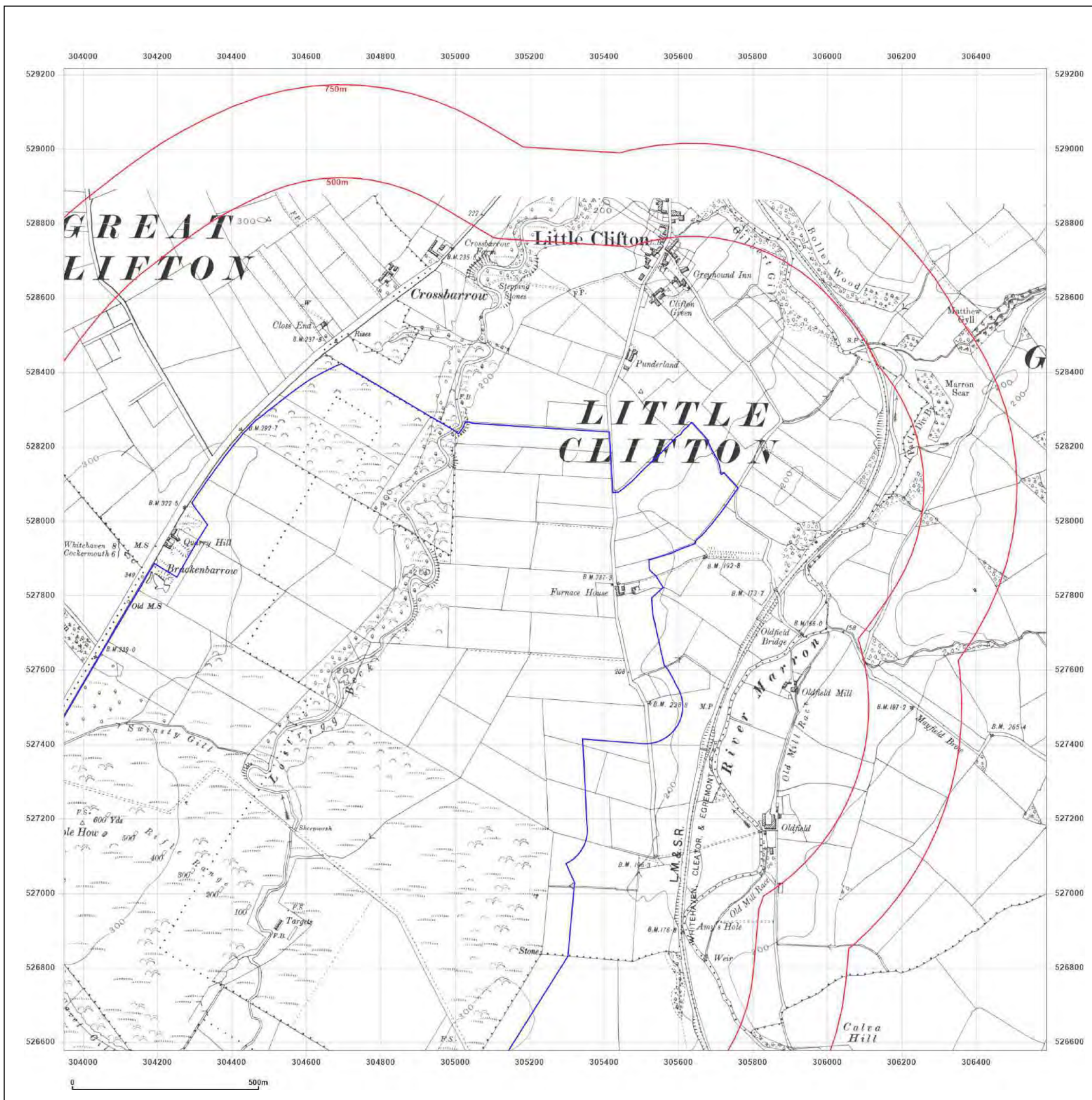


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Site Details:

CA12978 - Cumbria

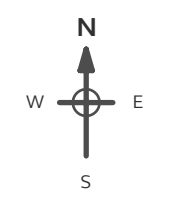
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

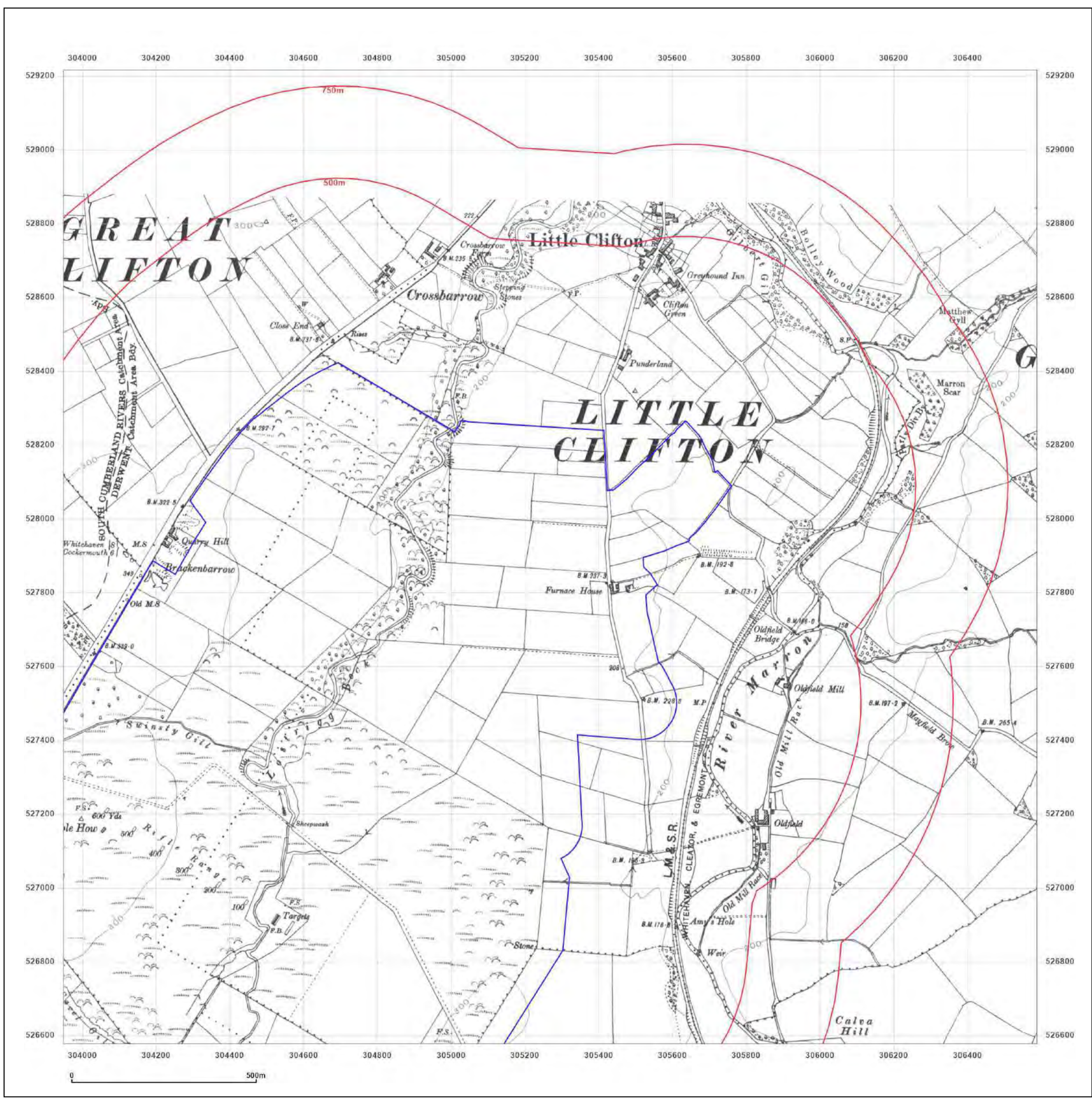


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Site Details:

CA12978 - Cumbria

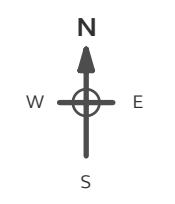
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: County Series

Map date: 1926

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1926
 Edition 1926
 Copyright N/A
 Levelled N/A

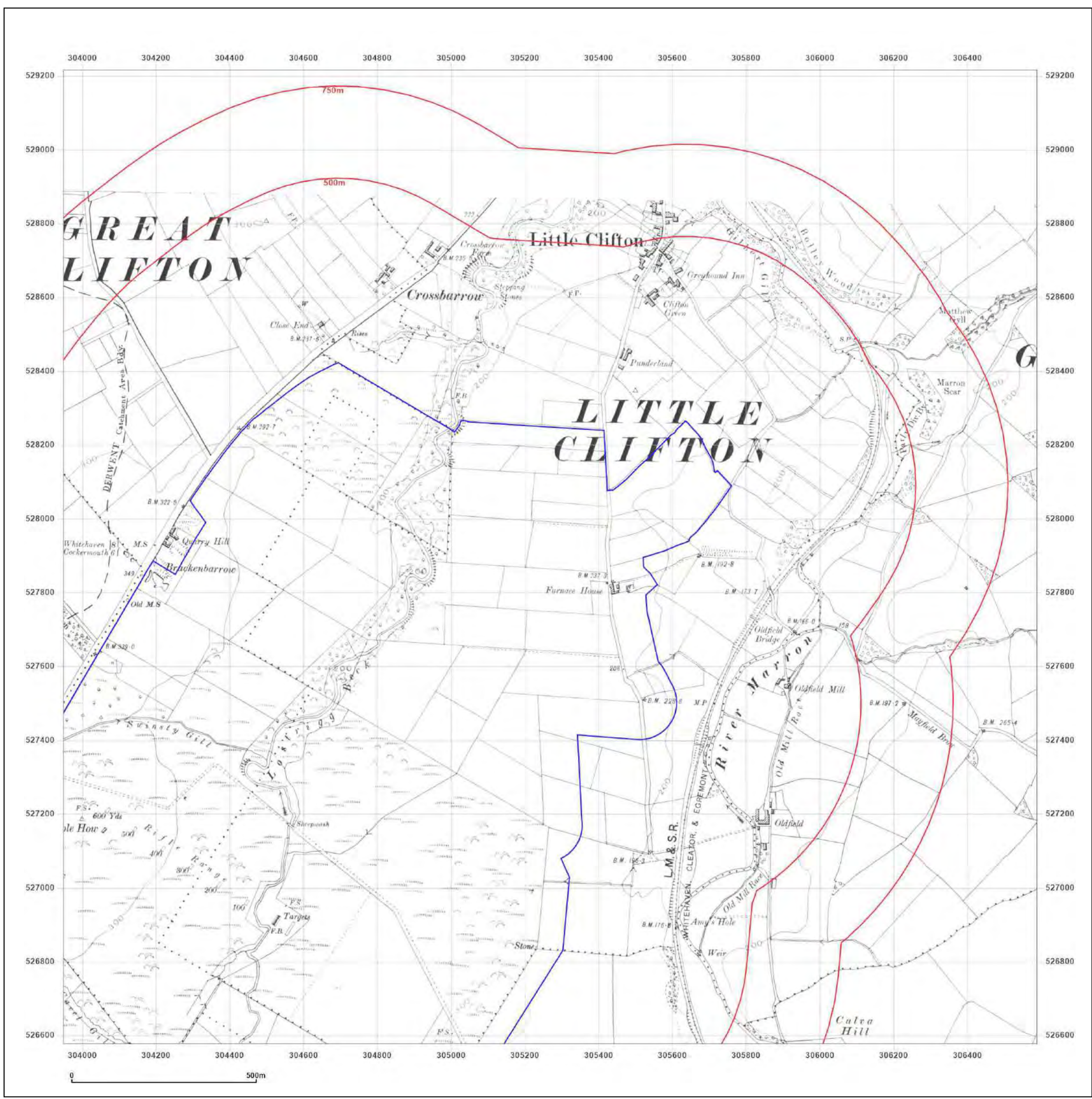


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Production date: 23 April 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CA12978 - Cumbria

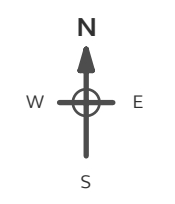
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: County Series

Map date: 1923-1927

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1863
 Revised 1927
 Edition 1927
 Copyright N/A
 Levelled N/A

Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

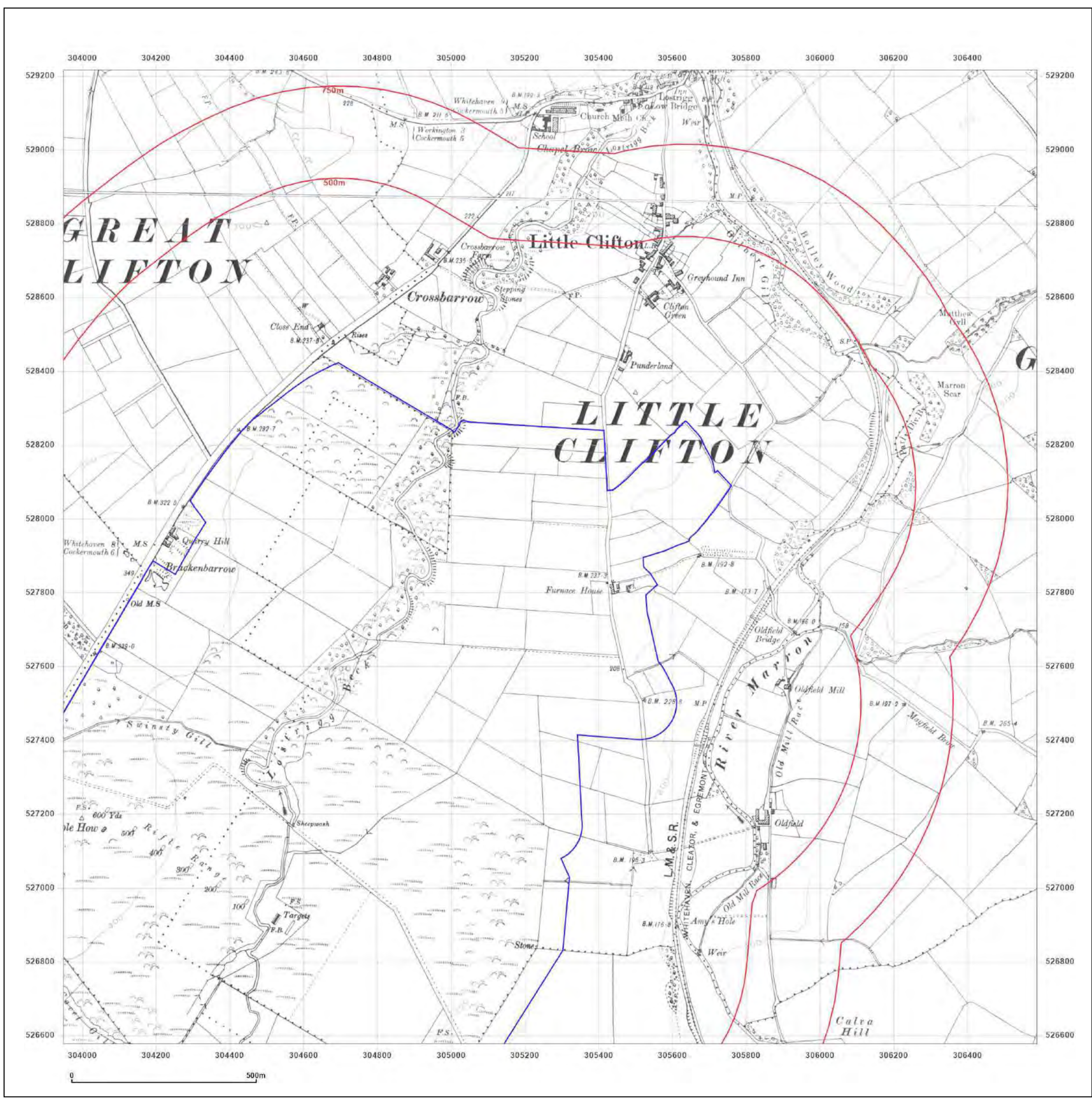


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Site Details:

CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: County Series

Map date: 1947

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1863
 Revised 1947
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1864
 Revised 1947
 Edition N/A
 Copyright N/A
 Levelled N/A

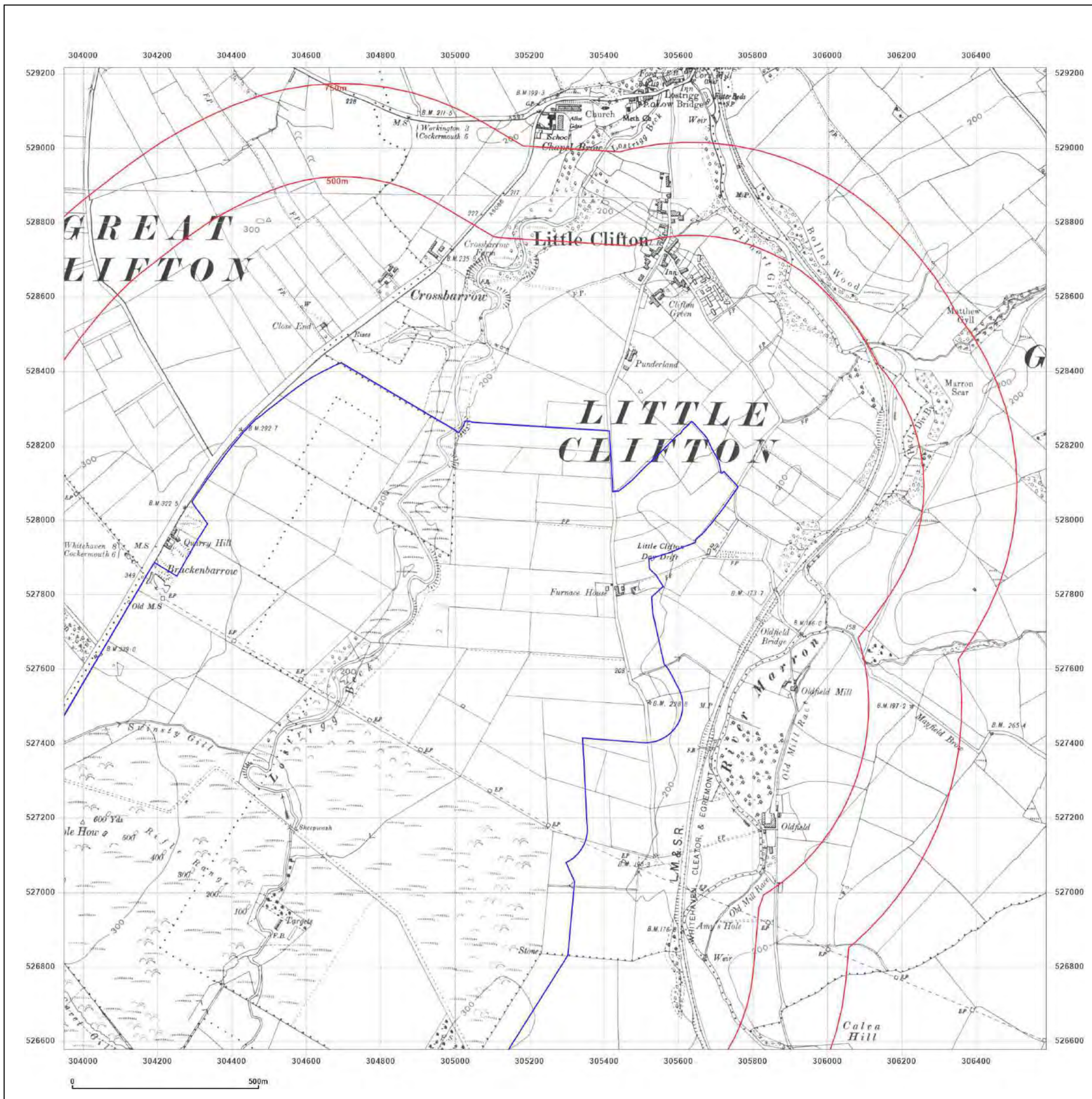


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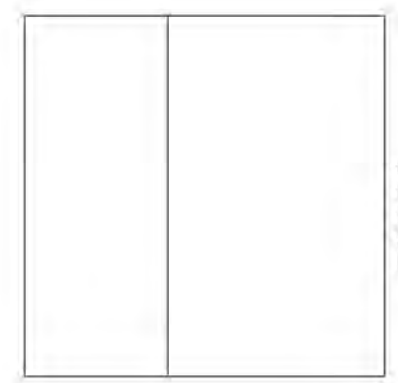
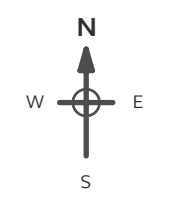
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: Provisional

Map date: 1951

Scale: 1:10,560

Printed at: 1:10,560



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

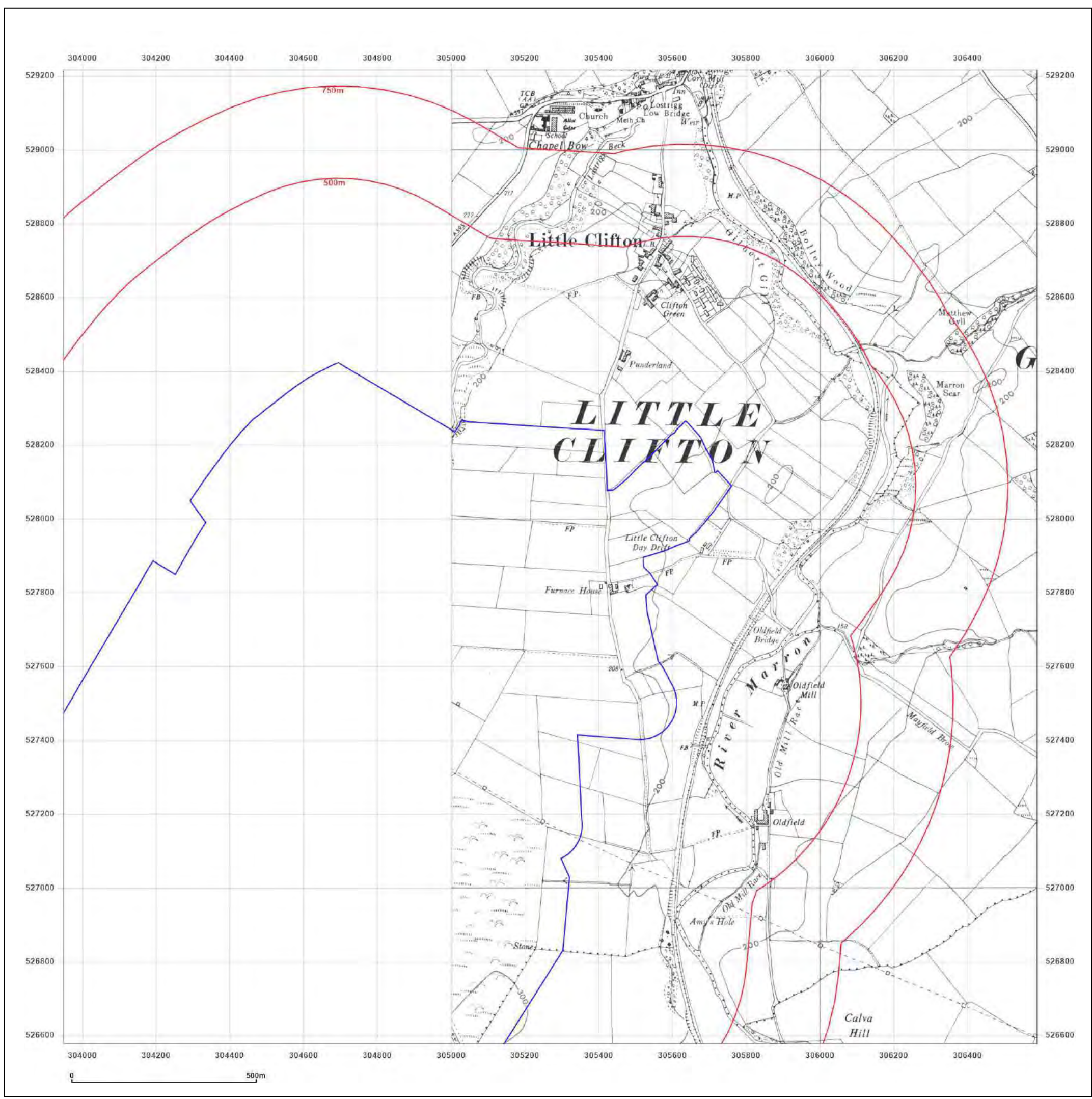


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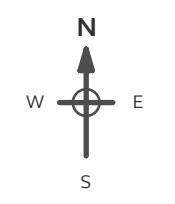
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Map Name: Provisional

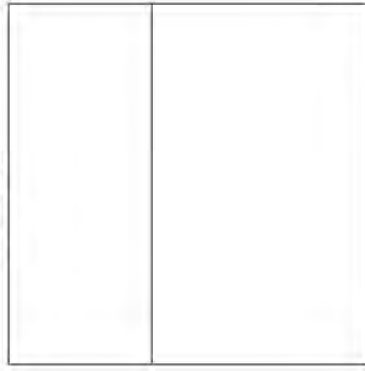
Map date: 1957

Scale: 1:10,560

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Surveyed N/A
 Revised 1956
 Edition 1957
 Copyright N/A
 Levelled N/A



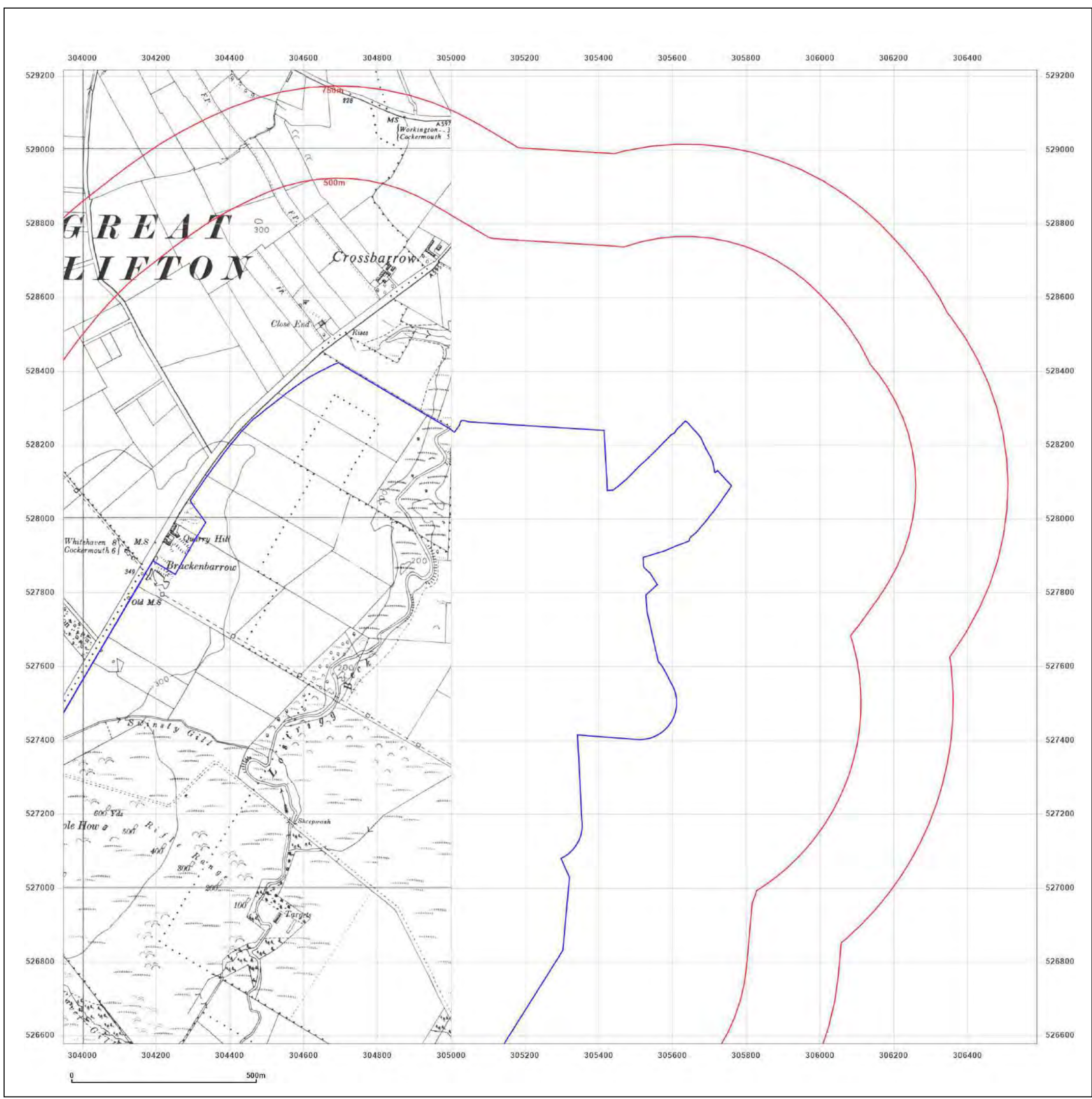


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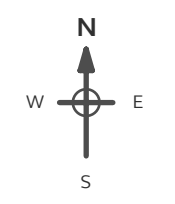
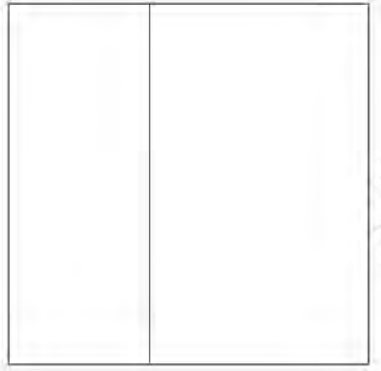
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: National Grid

Map date: 1970

Scale: 1:10,000

Printed at: 1:10,000

Surveyed 1969
 Revised 1970
 Edition N/A
 Copyright N/A
 Levelled N/A

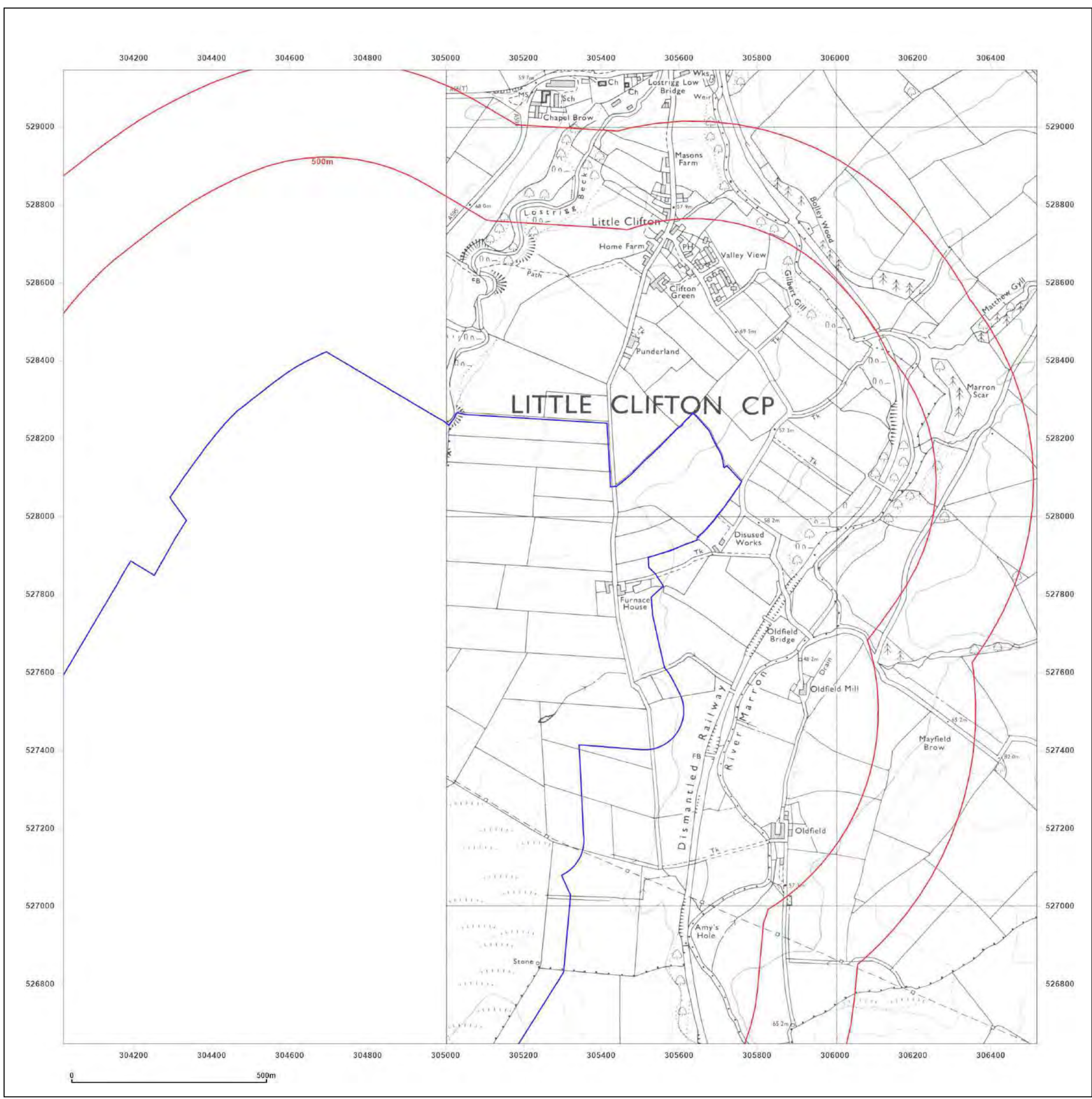


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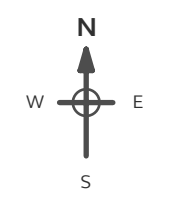
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Map Name: National Grid

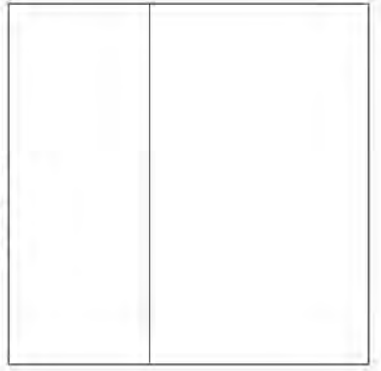
Map date: 1981

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1979
 Revised 1981
 Edition N/A
 Copyright N/A
 Levelled N/A



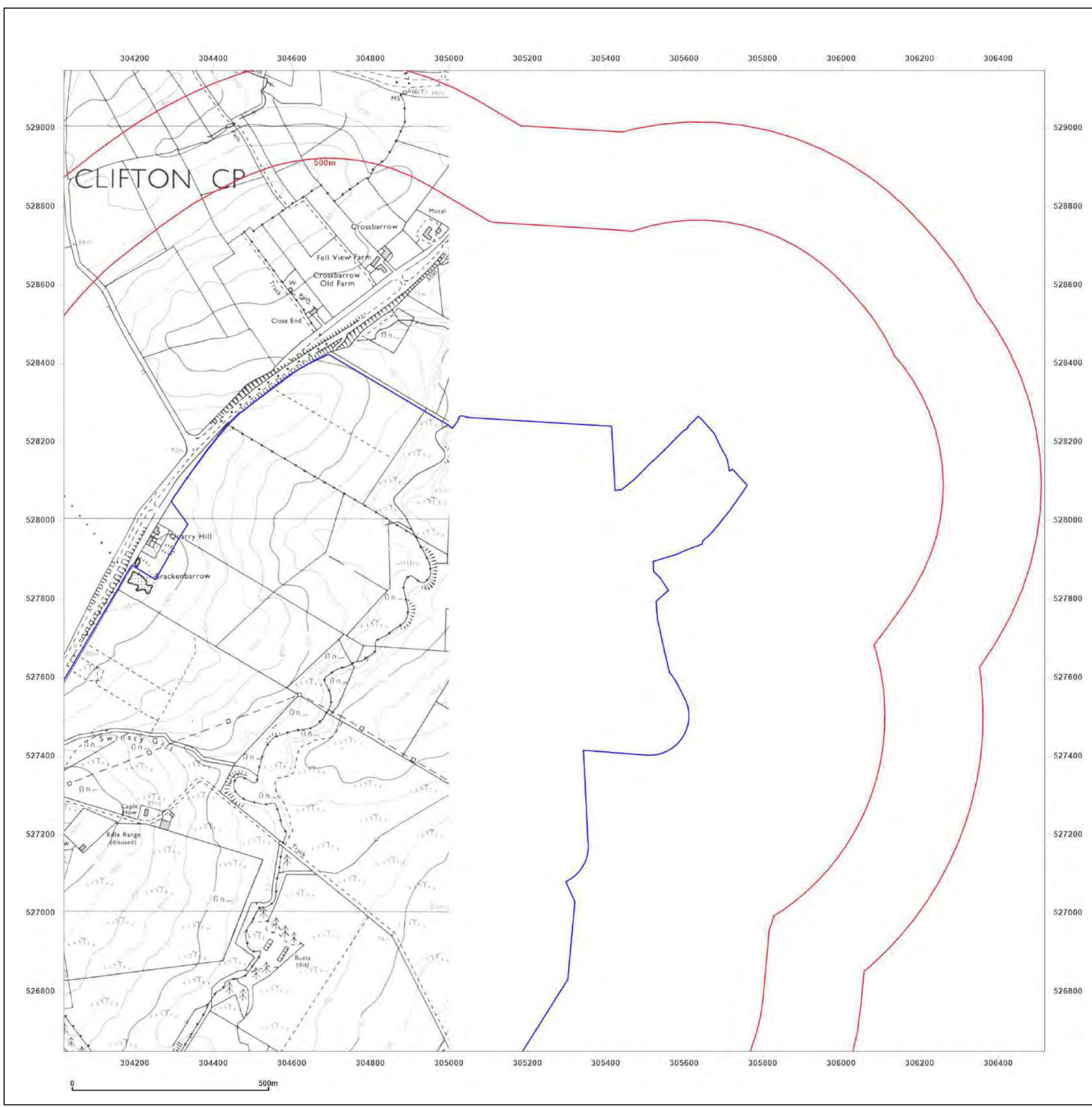


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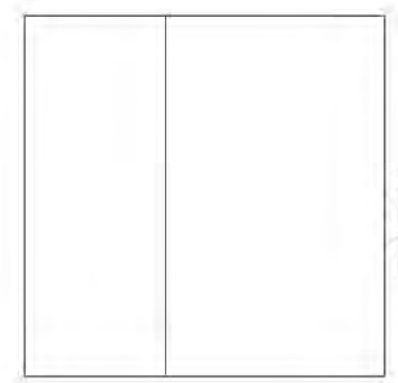
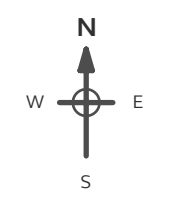
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: National Grid

Map date: 1992

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1967
 Revised 1992
 Edition N/A
 Copyright N/A
 Levelled N/A

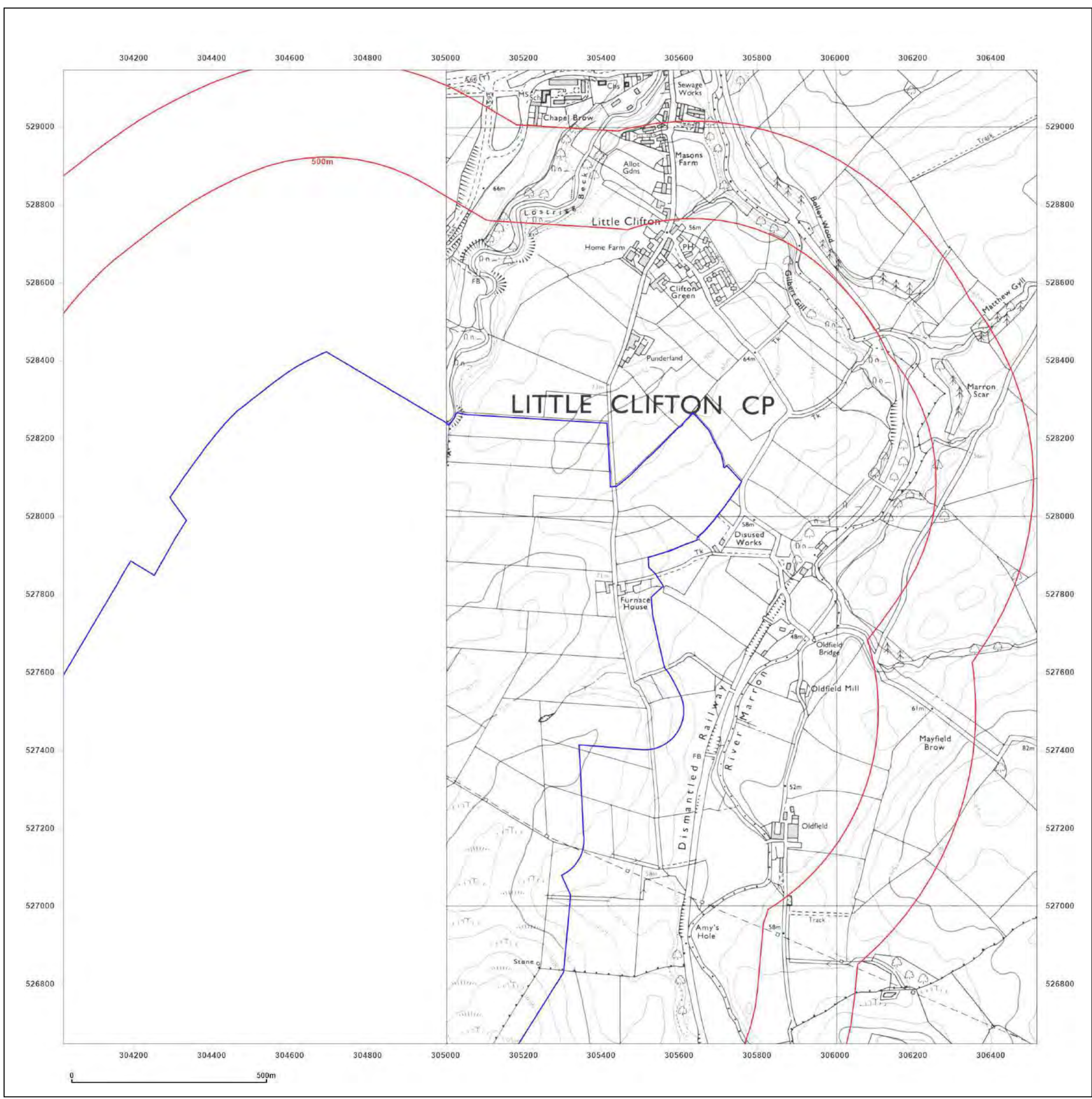


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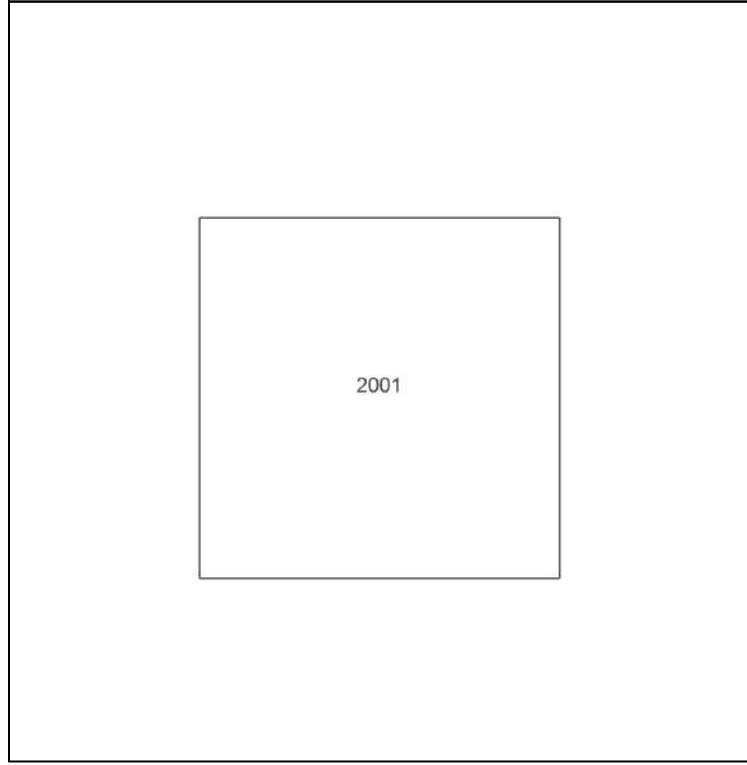
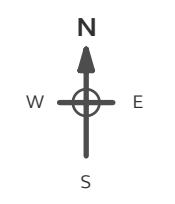
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

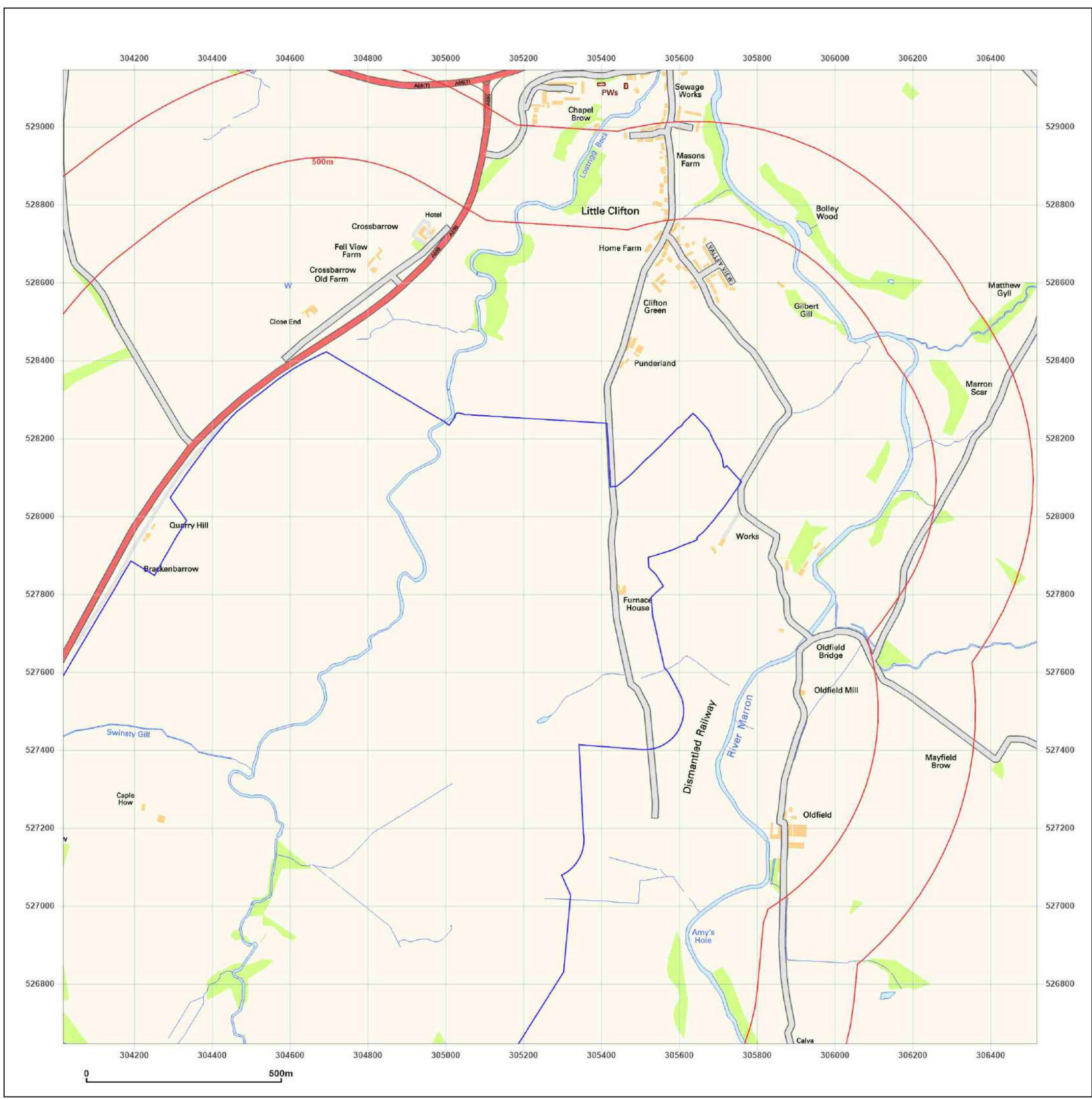


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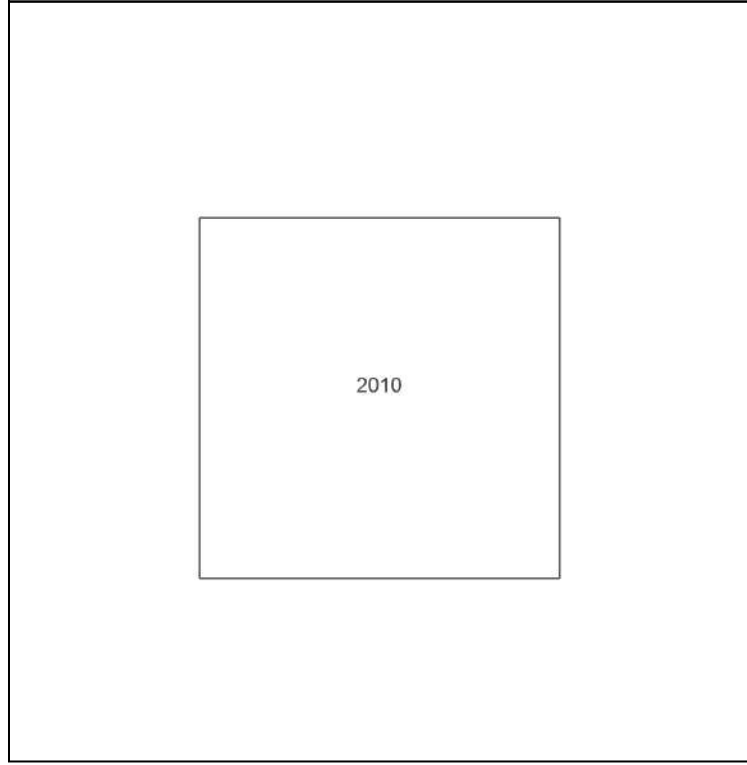
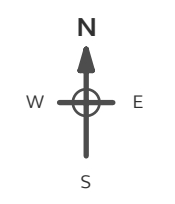
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

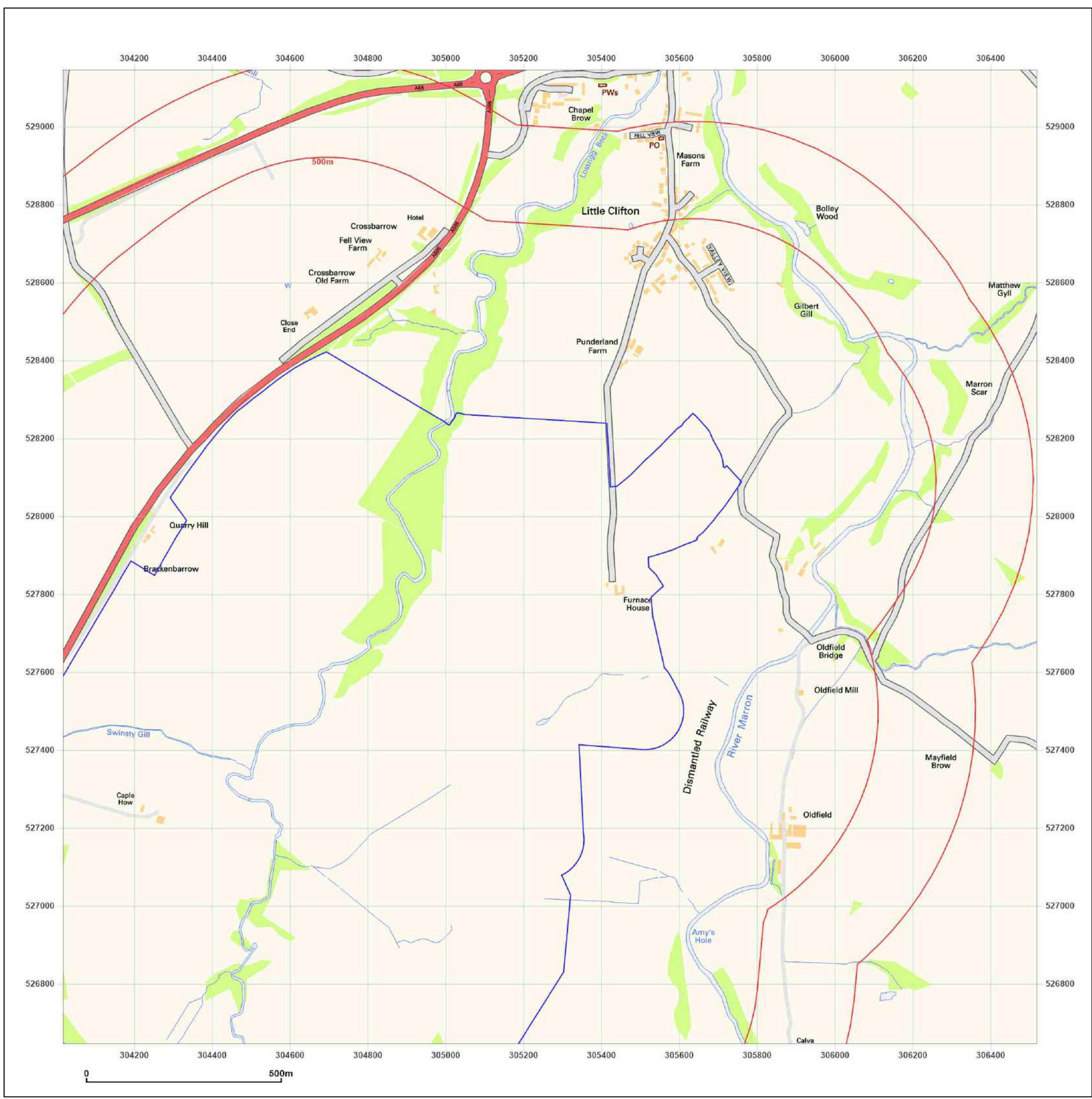


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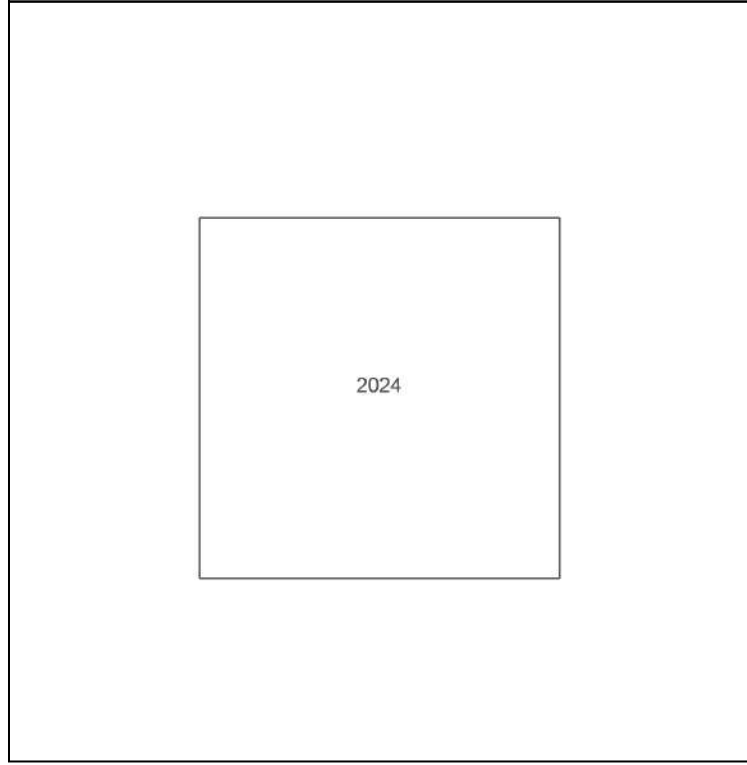
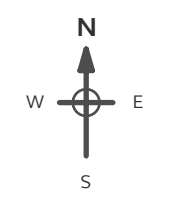
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Report Ref: GSIP-2024-14878-18376_SS_2_2
Grid Ref: 305268, 527896

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

Printed at: 1:10,000

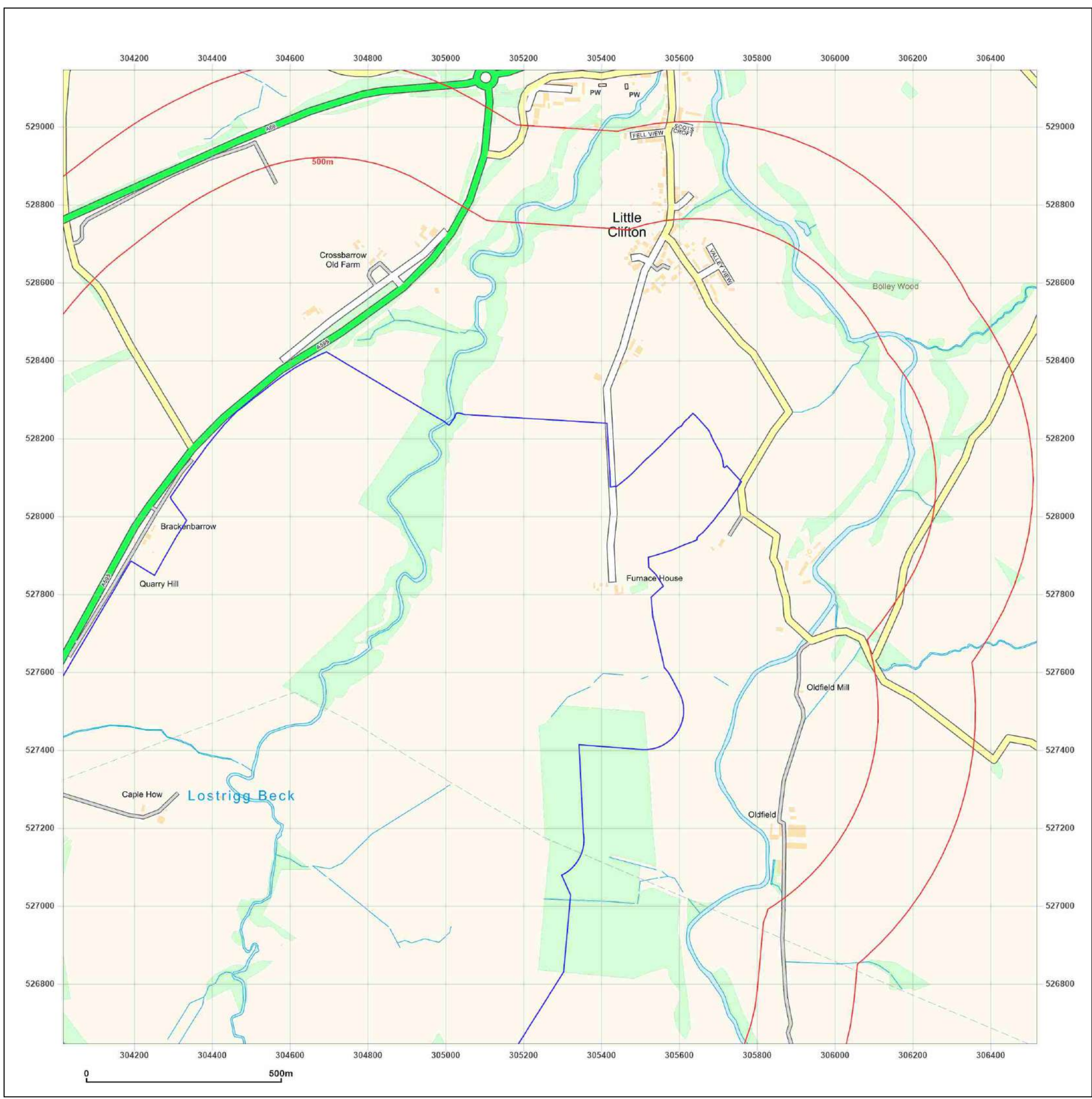


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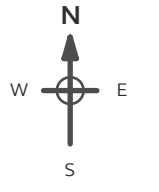
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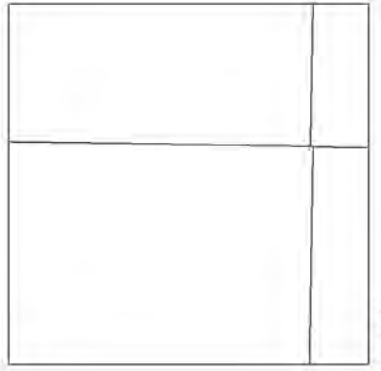
Site Details:
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Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1864
 Revised 1864
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1864
 Revised 1864
 Edition N/A
 Copyright N/A
 Levelled N/A

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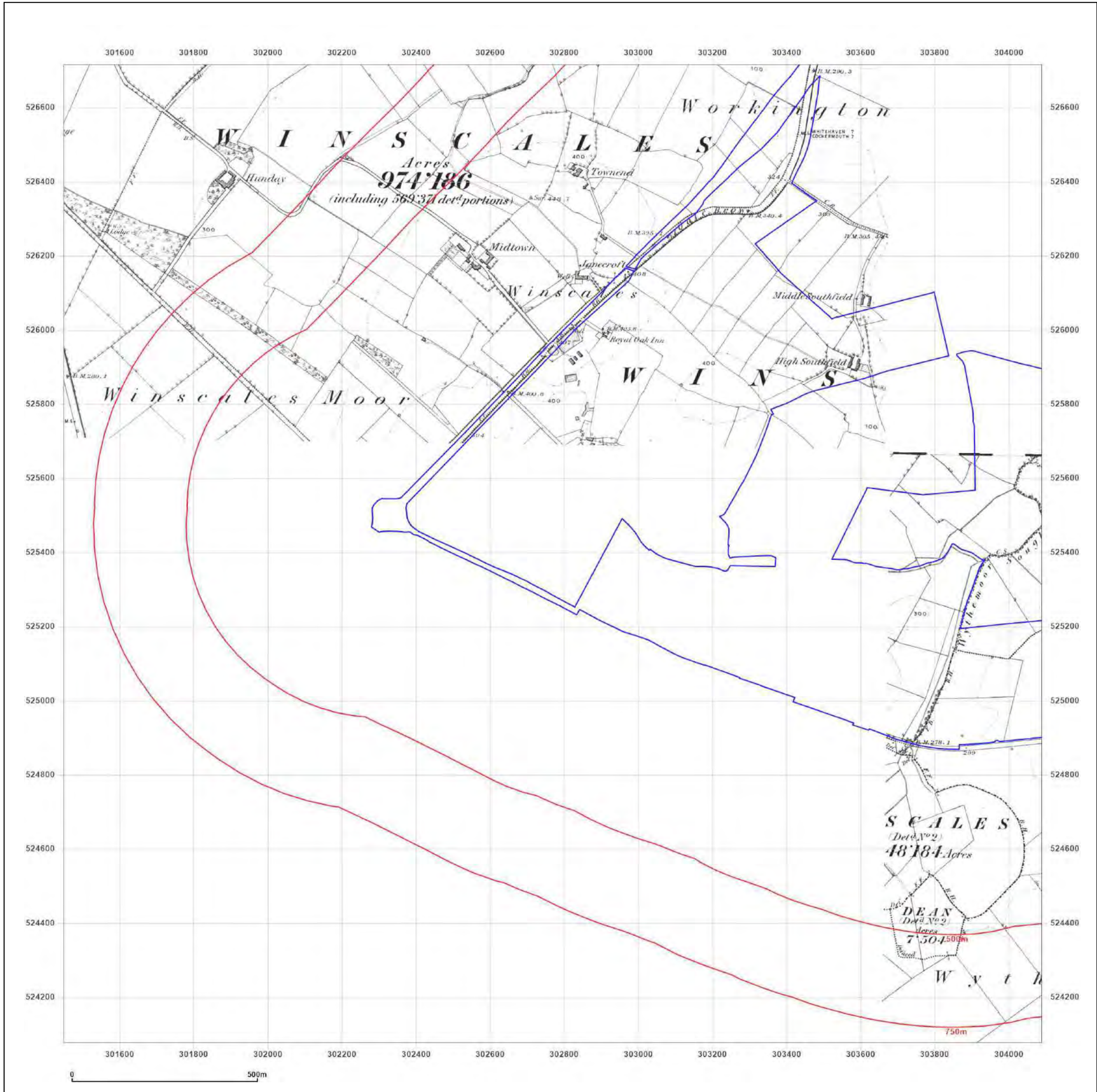


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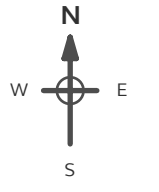
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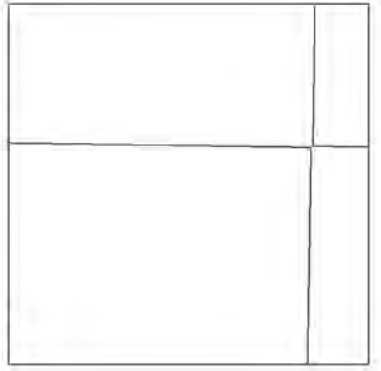
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Grid Ref: 302768, 525396

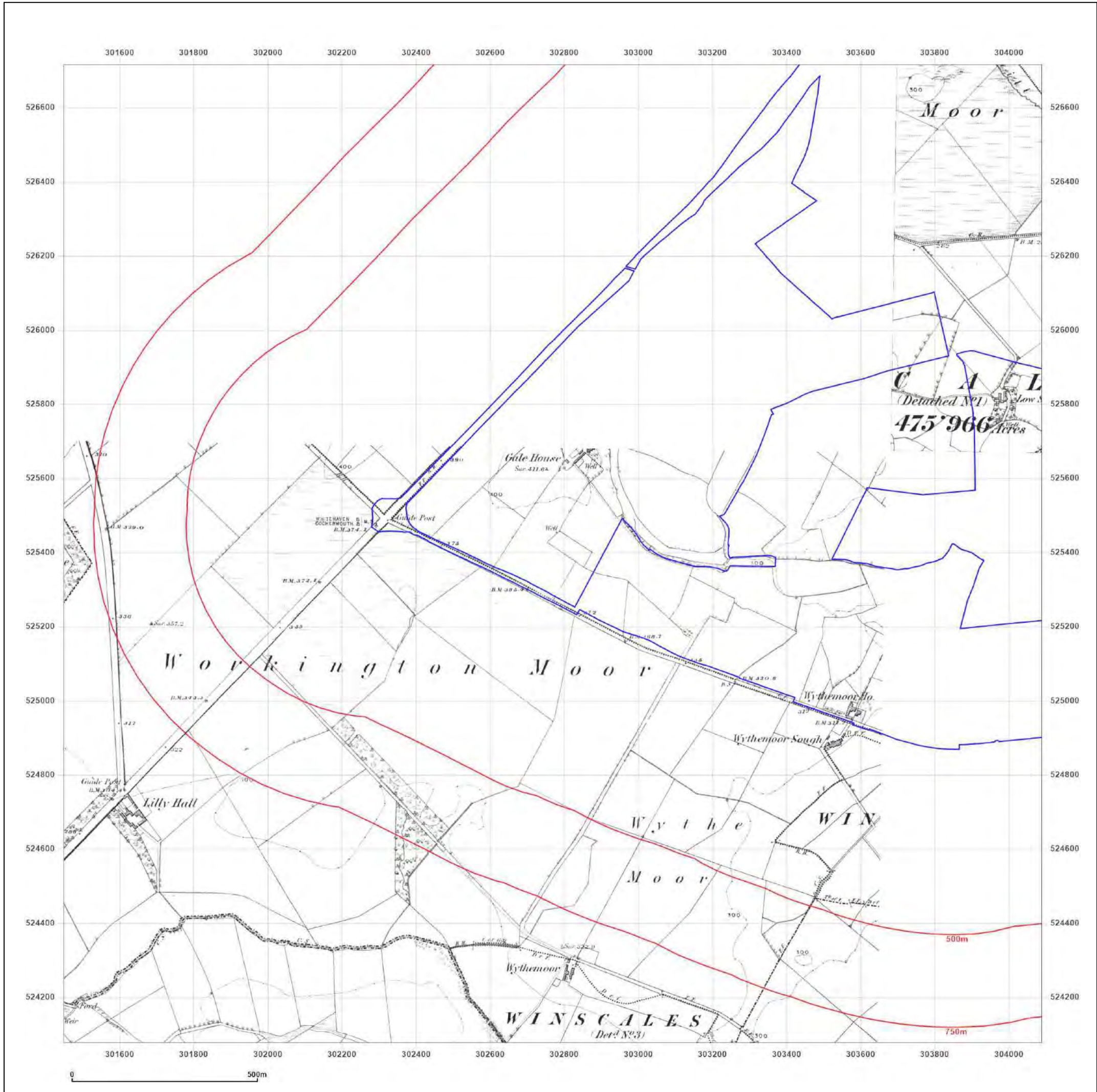
Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1864
Revised 1864
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1864
Revised 1864
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

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Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: County Series

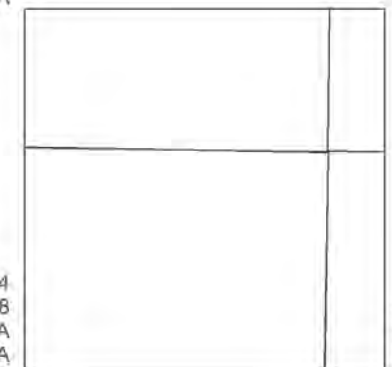
Map date: 1898

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1898
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1864
 Revised 1898
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1898
 Edition N/A
 Copyright N/A
 Levelled N/A

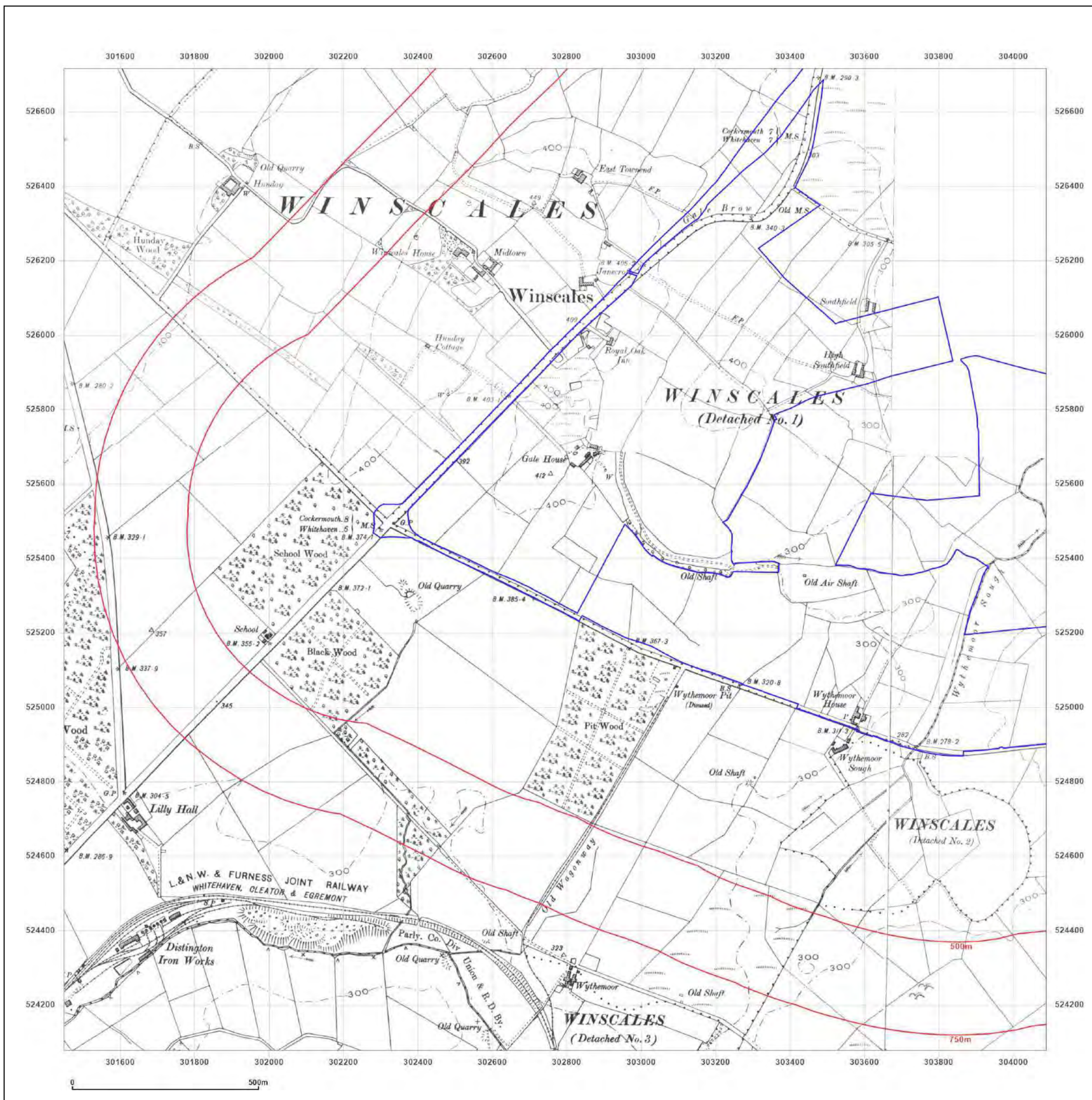


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Site Details:

CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

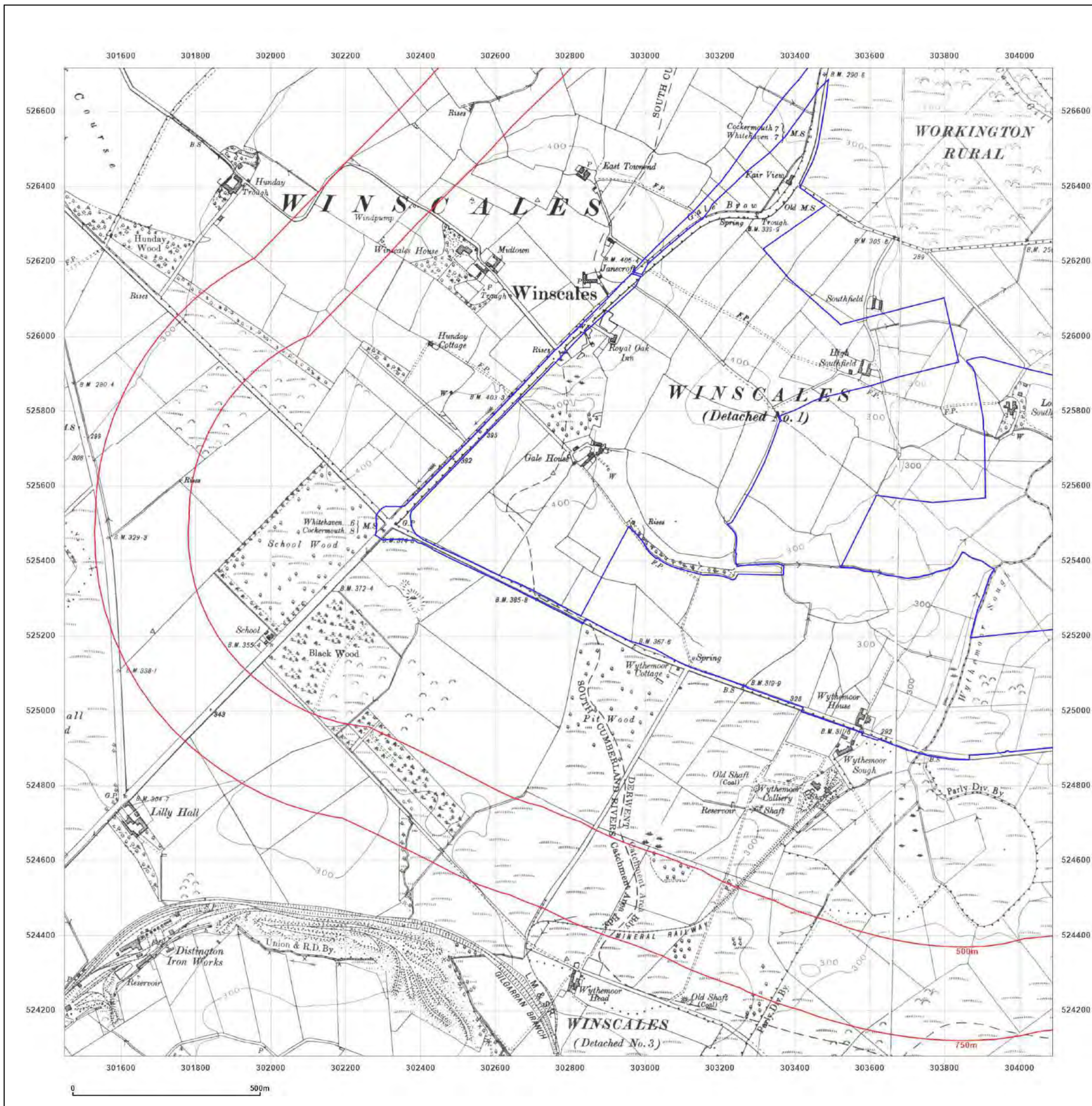


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Site Details:

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Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1864
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 Copyright N/A
 Levelled N/A

Surveyed 1867
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 Levelled N/A

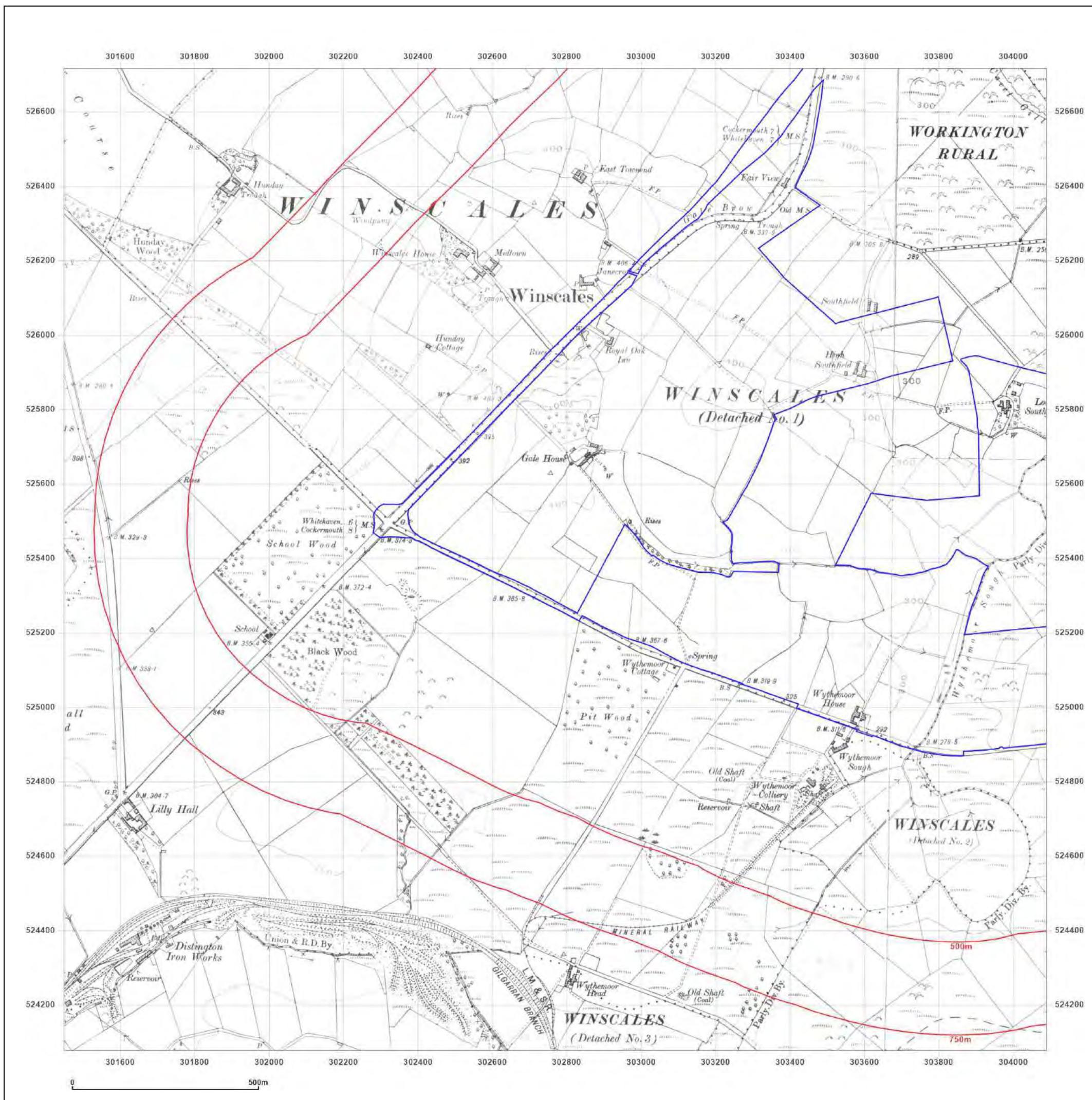


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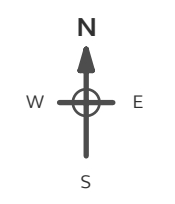
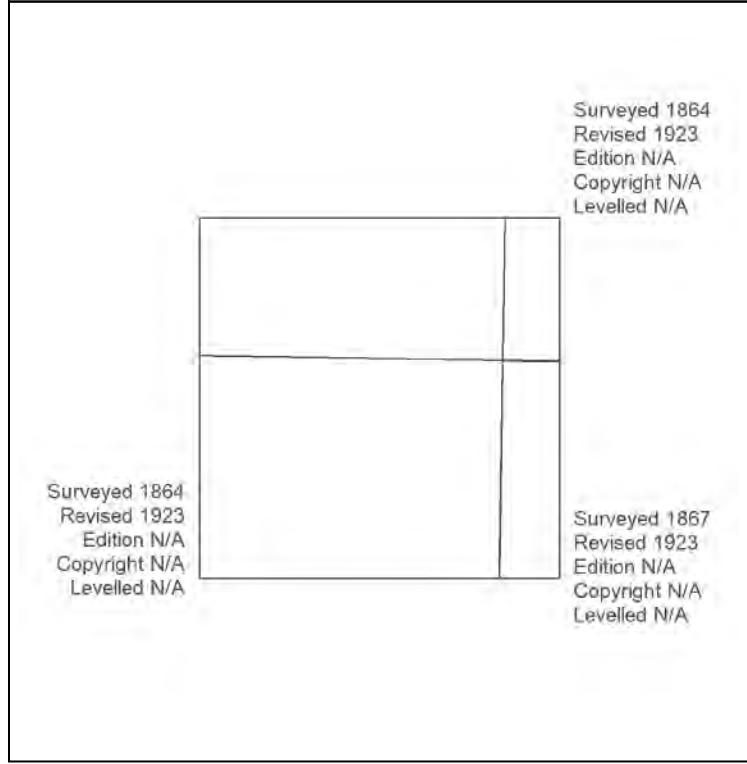
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Grid Ref: 302768, 525396

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1864
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1864
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

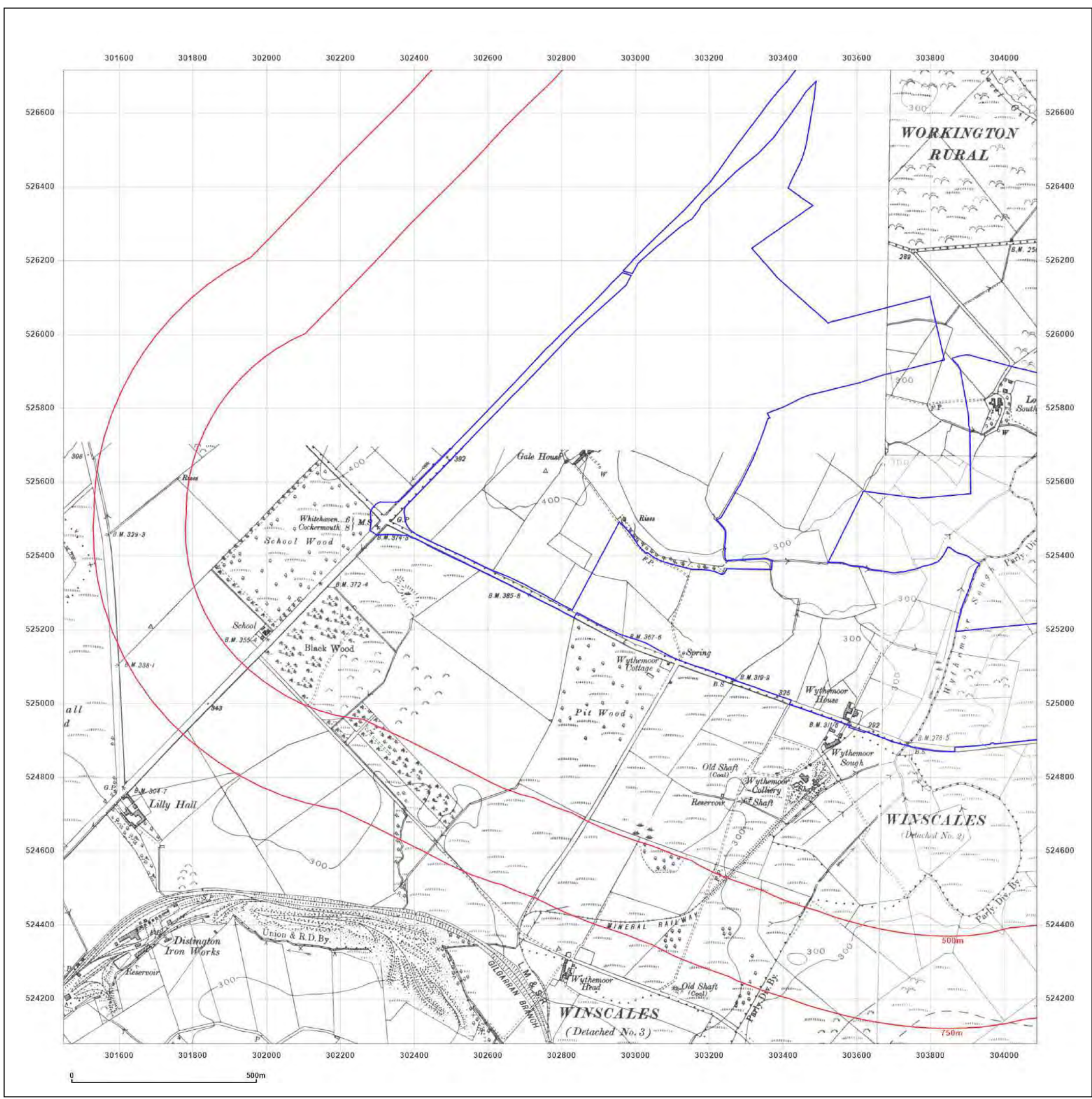


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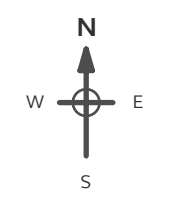
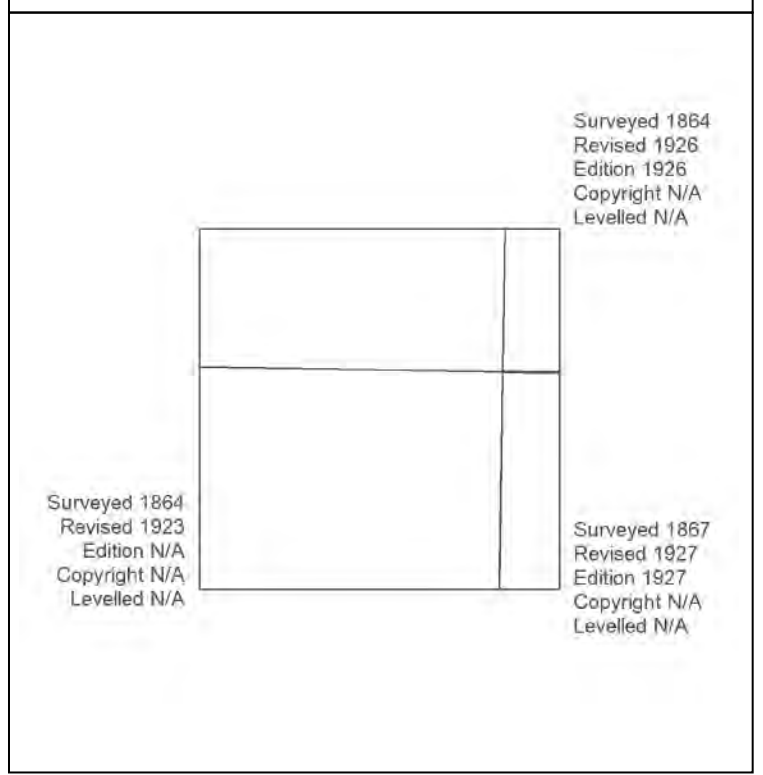
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Grid Ref: 302768, 525396

Map Name: County Series

Map date: 1923-1927

Scale: 1:10,560

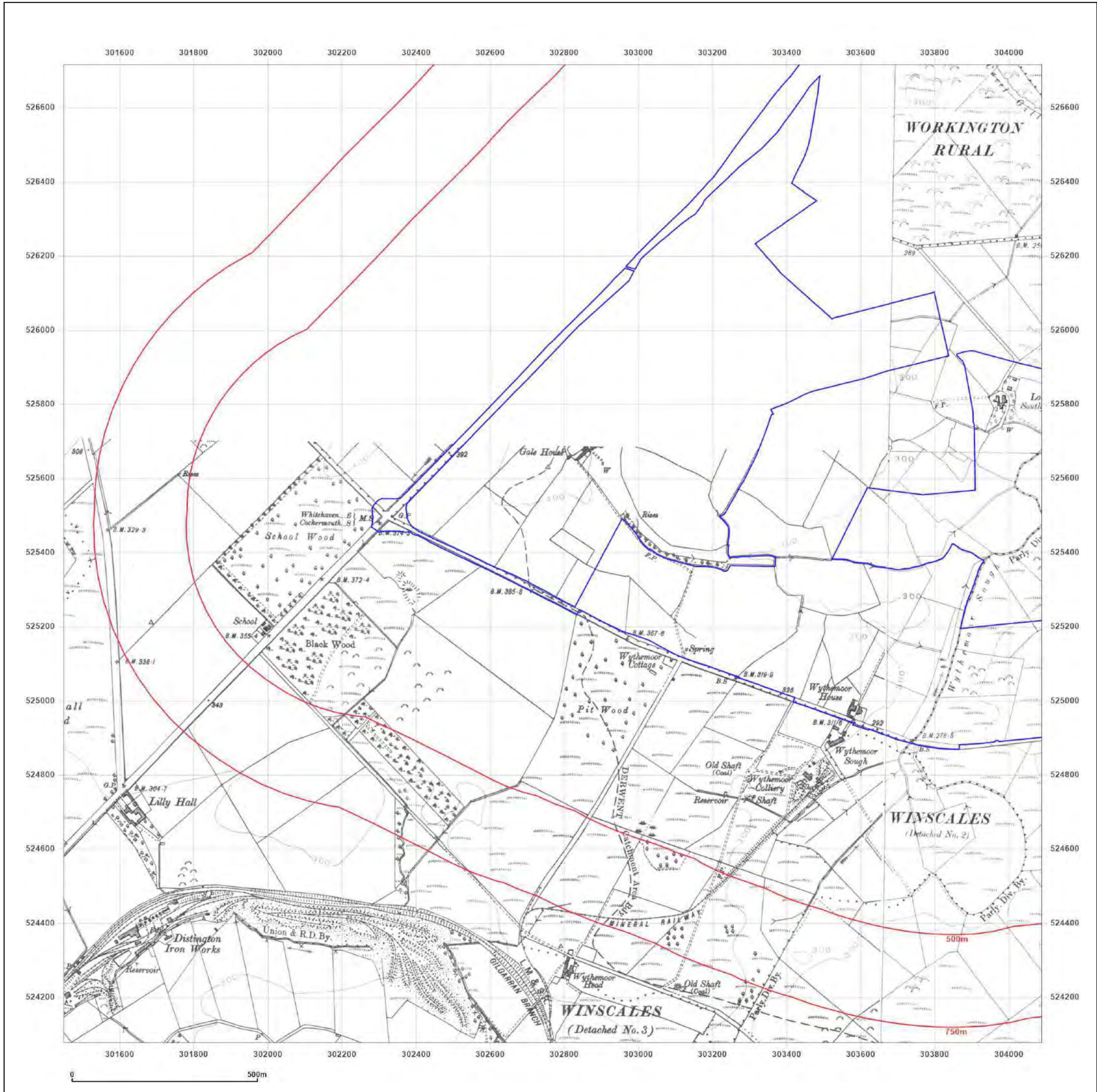
Printed at: 1:10,560

Surveyed 1864
Revised 1926
Edition 1926
Copyright N/A
Levelled N/A

Surveyed 1864
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1927
Edition 1927
Copyright N/A
Levelled N/A



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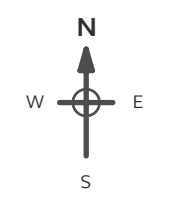
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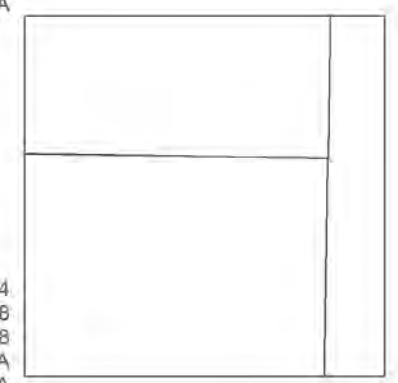
Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1938
 Edition 1938
 Copyright N/A
 Levelled N/A



Surveyed 1864
 Revised 1938
 Edition 1938
 Copyright N/A
 Levelled N/A

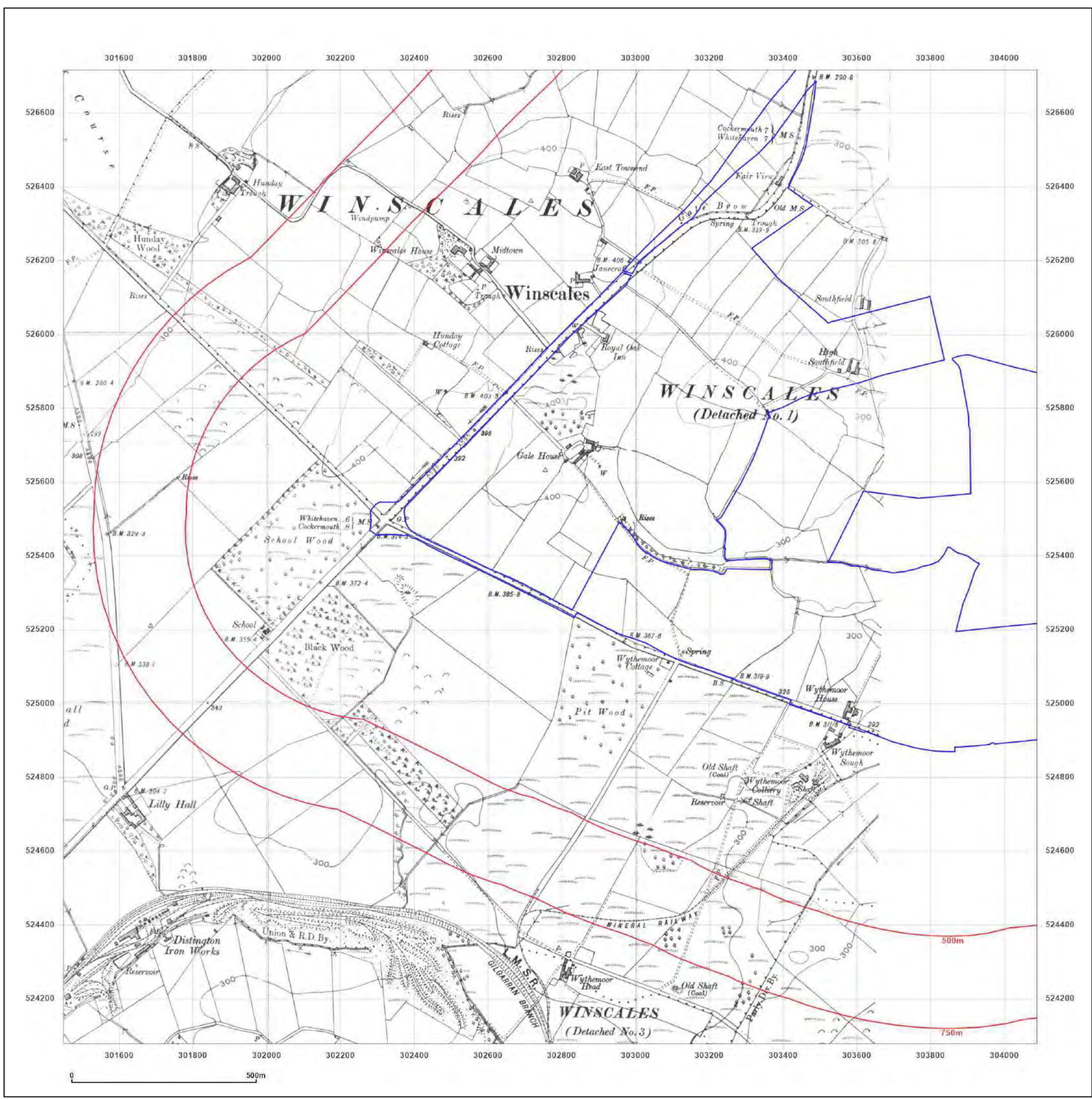


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Site Details:

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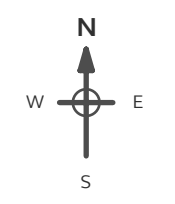
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Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: Provisional

Map date: 1951

Scale: 1:10,560

Printed at: 1:10,560



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

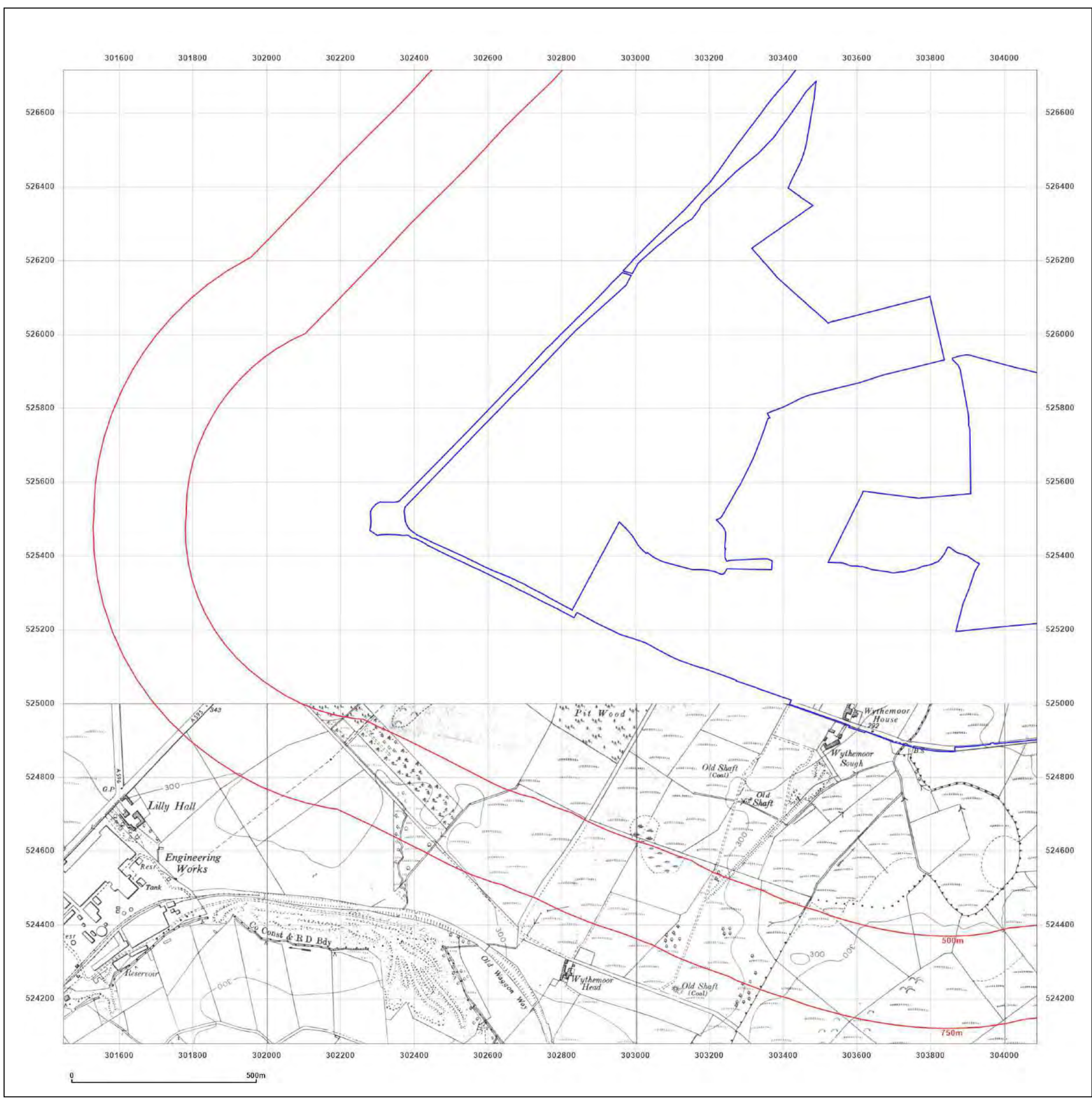


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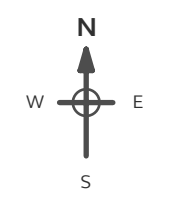
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Grid Ref: 302768, 525396

Map Name: Provisional

Map date: 1951

Scale: 1:10,560

Printed at: 1:10,560



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

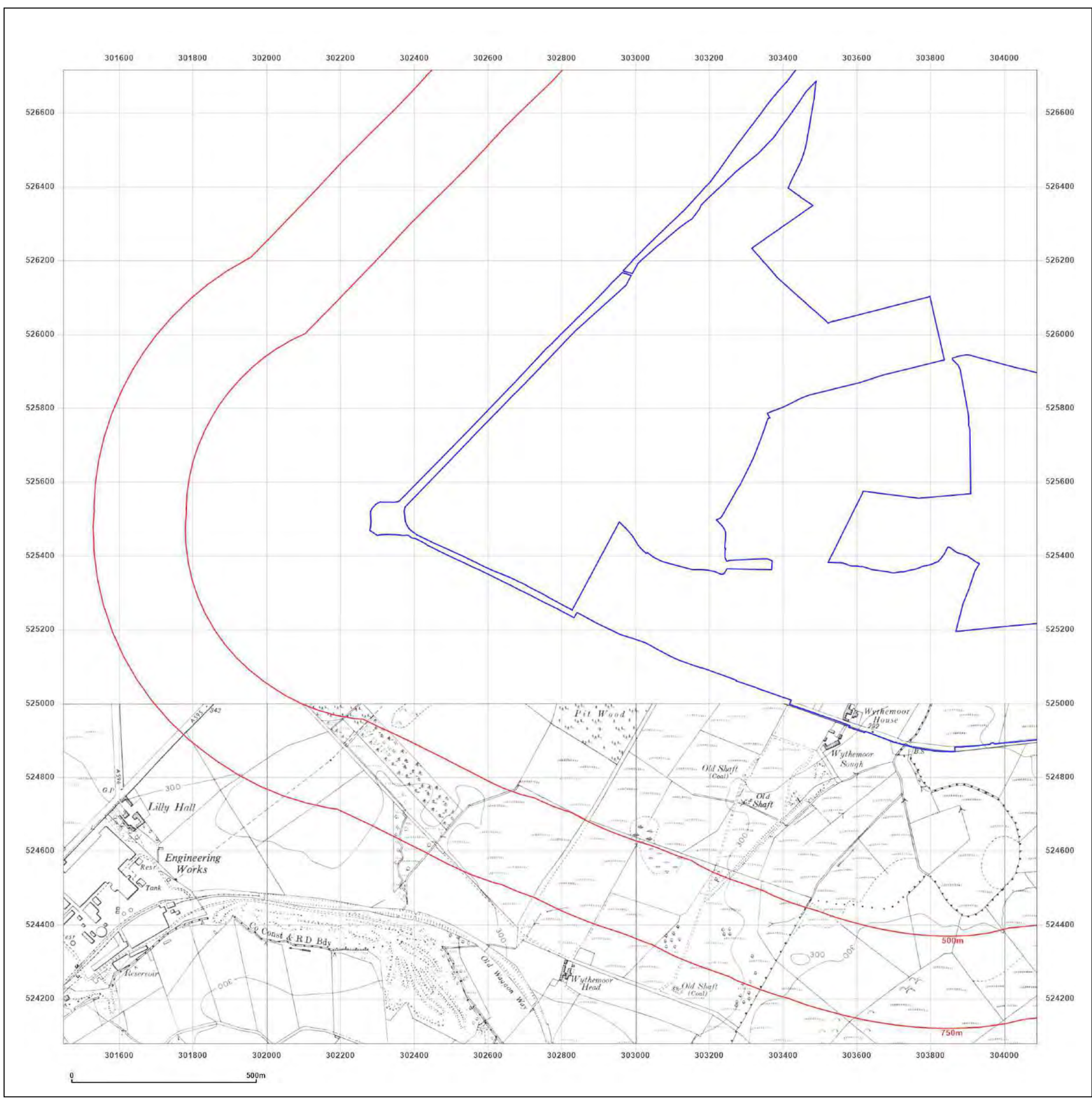


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Site Details:

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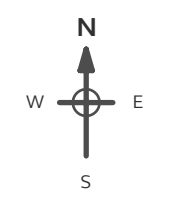
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Grid Ref: 302768, 525396

Map Name: Provisional

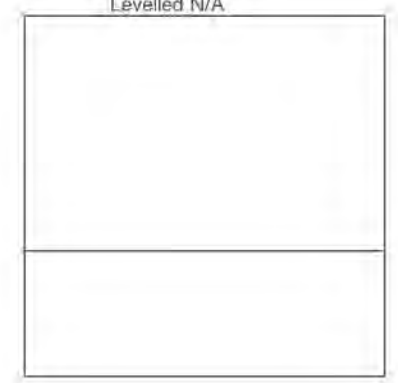
Map date: 1957

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Surveyed N/A
 Revised 1956
 Edition 1957
 Copyright N/A
 Levelled N/A

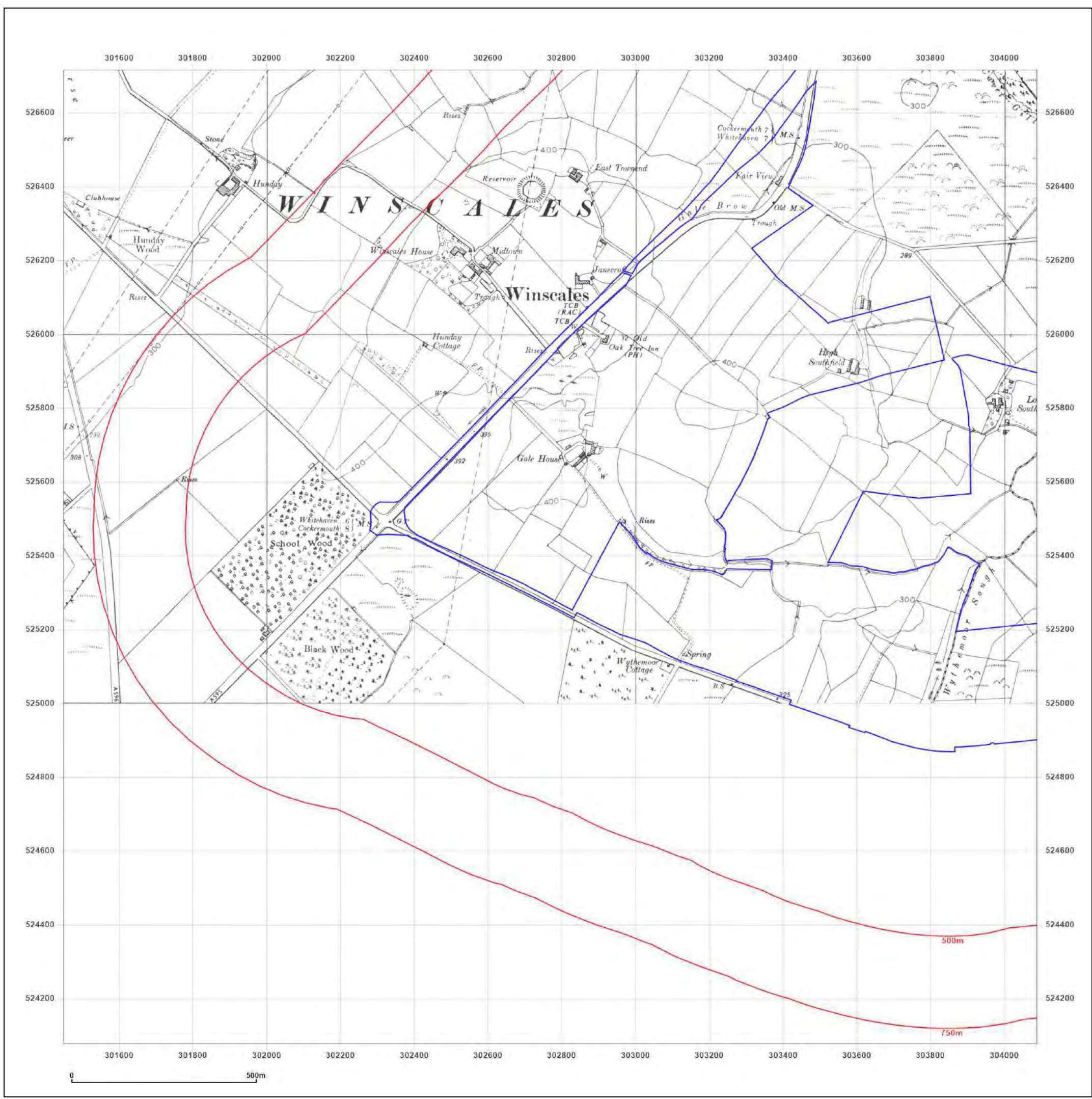


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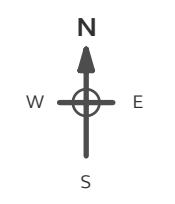
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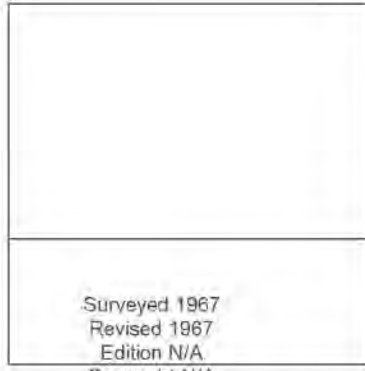
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Map date: 1967

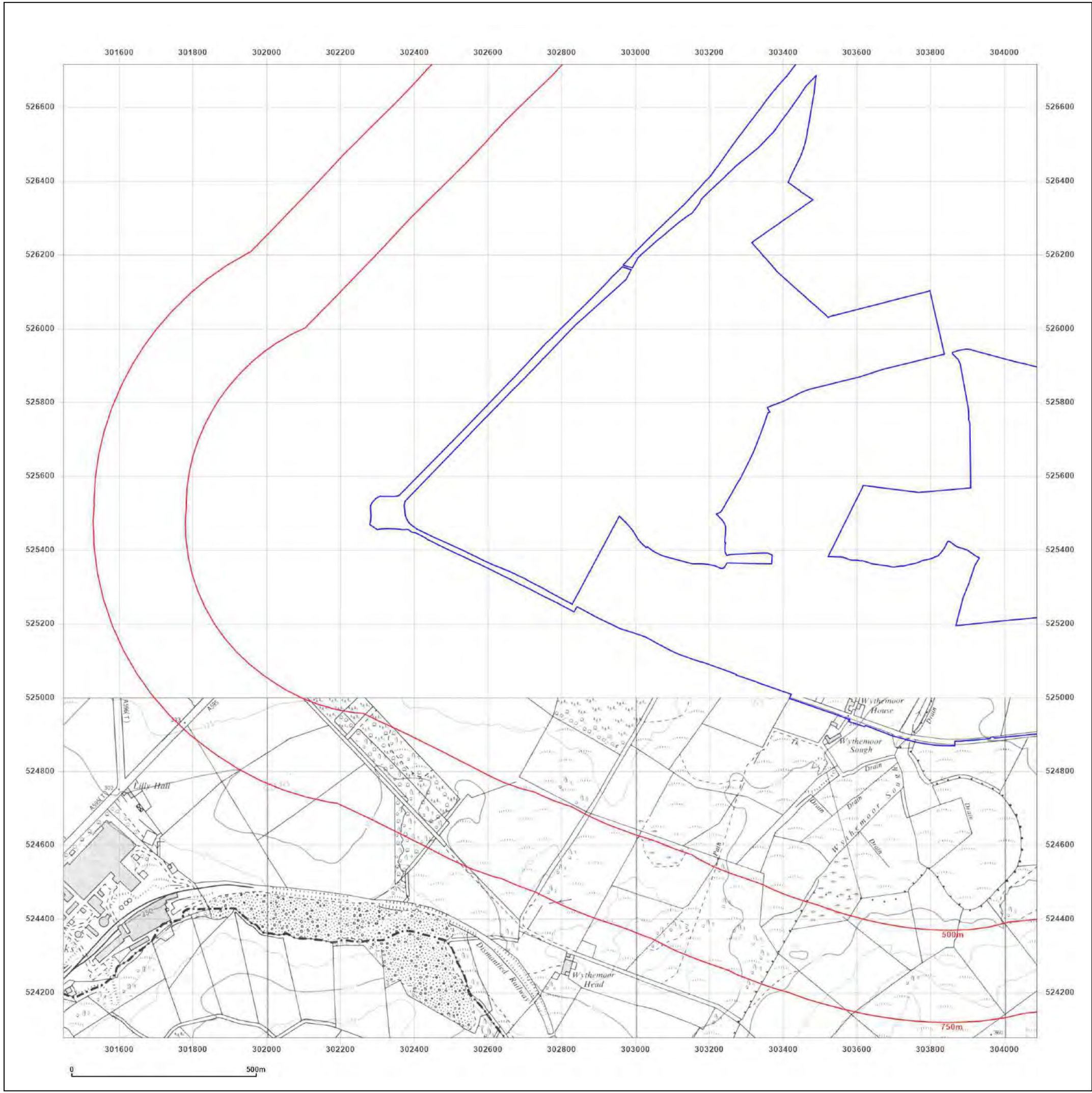
Scale: 1:10,560

Printed at: 1:10,560





Surveyed 1967
 Revised 1967
 Edition N/A
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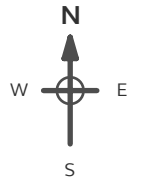
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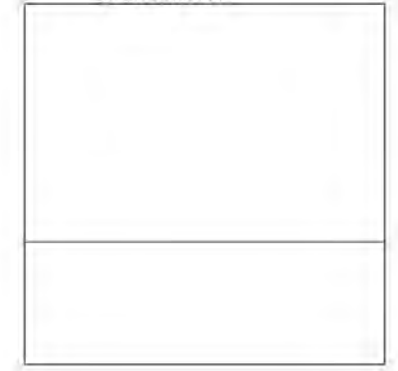
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Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: National Grid
Map date: 1981
Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1979
 Revised 1981
 Edition N/A
 Copyright N/A
 Levelled N/A

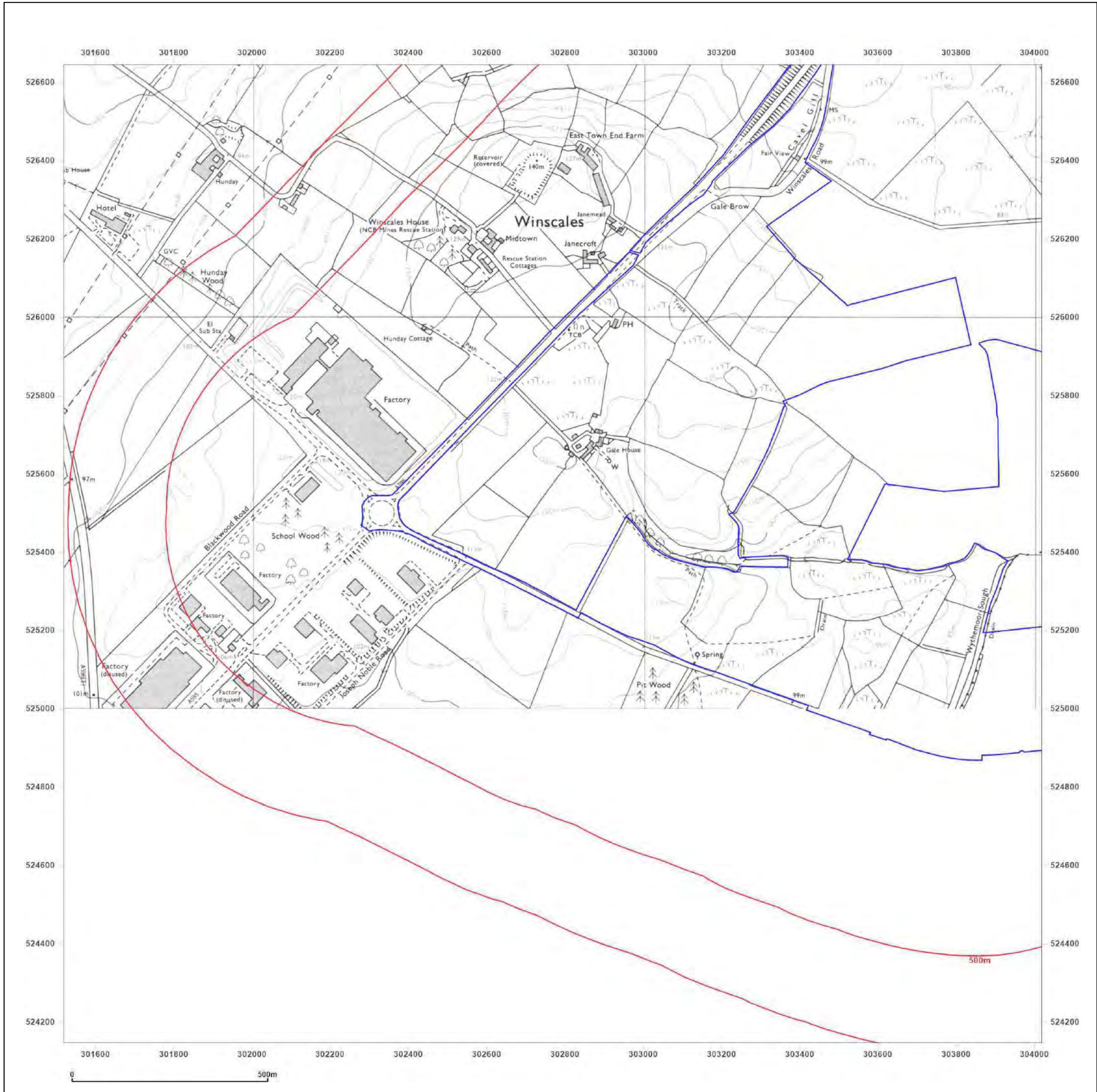


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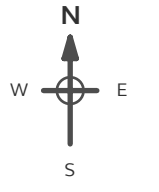
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Site Details:
CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: National Grid
Map date: 1991
Scale: 1:10,000
Printed at: 1:10,000



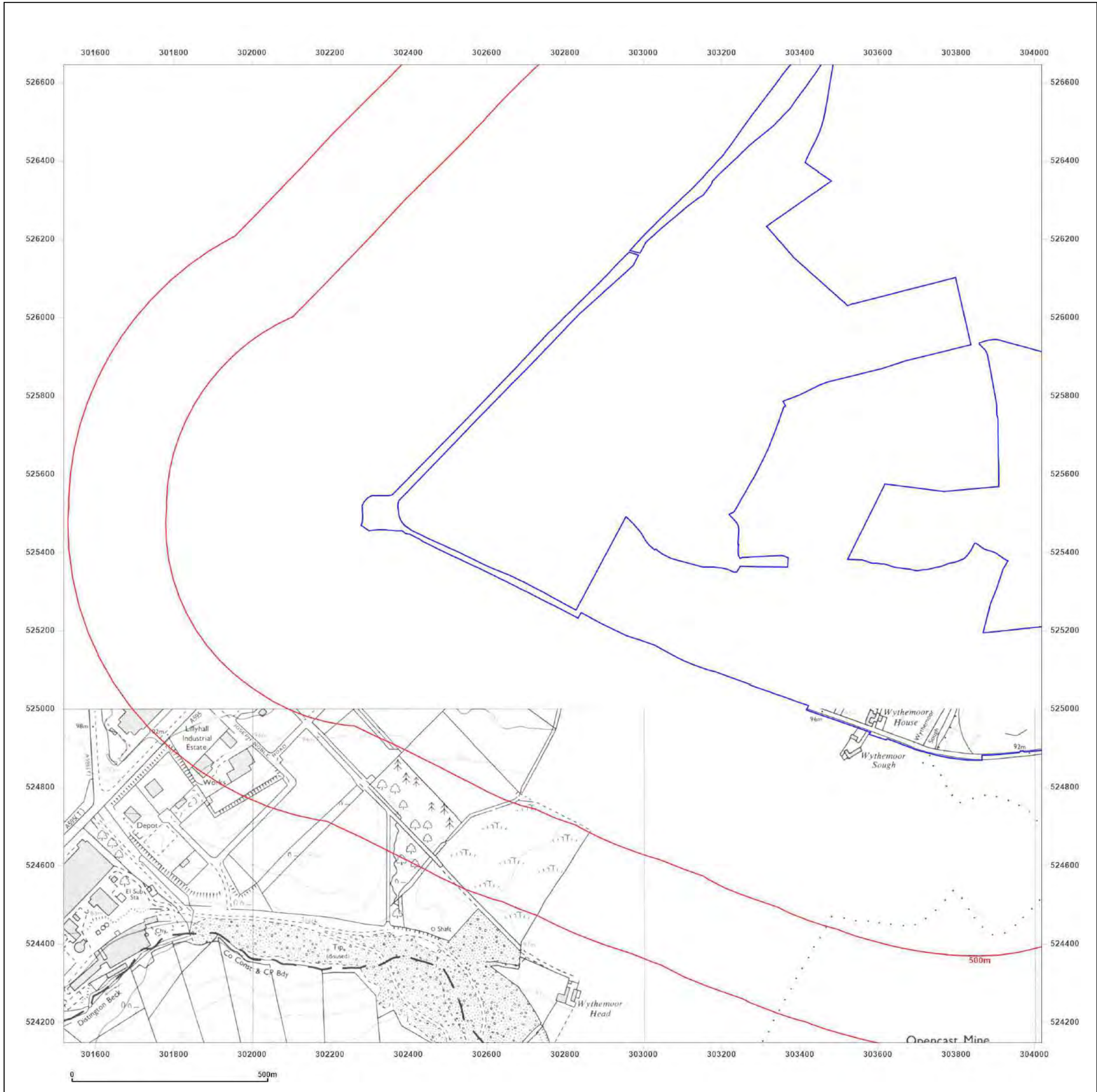
Surveyed 1987
Revised 1991
Edition N/A
Copyright N/A
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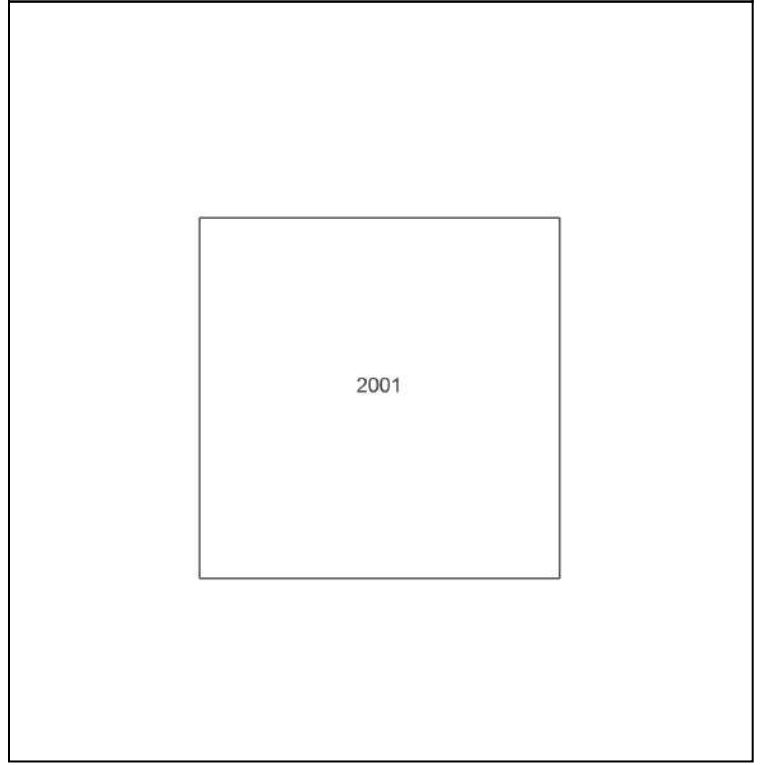
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Site Details:
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Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000

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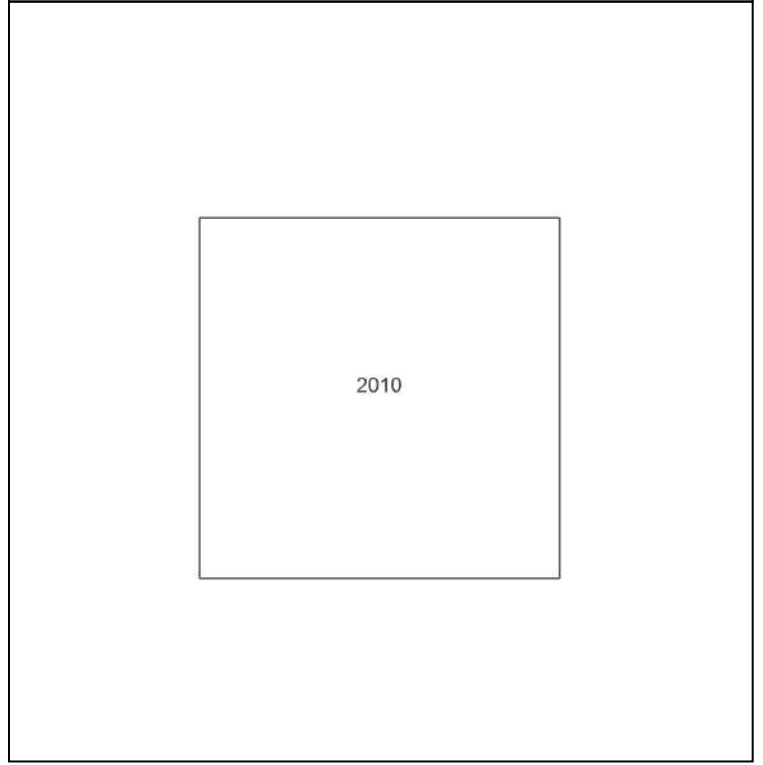
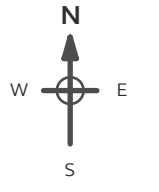
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Site Details:
CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_1
Grid Ref: 302768, 525396

Map Name: National Grid
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000



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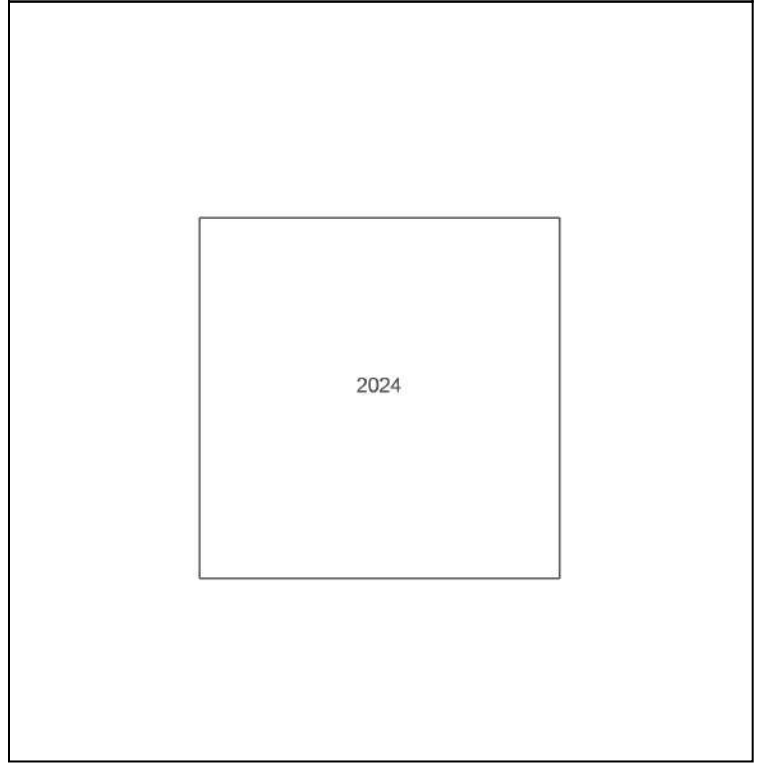
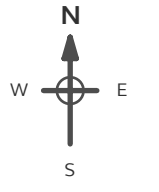
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Site Details:
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Grid Ref: 302768, 525396

Map Name: National Grid
Map date: 2024
Scale: 1:10,000
Printed at: 1:10,000



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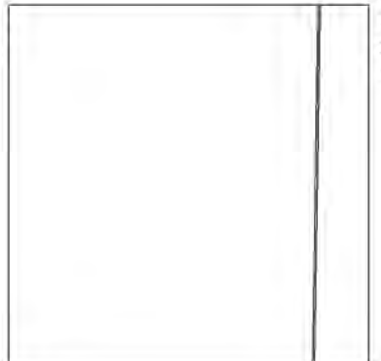


Site Details:
CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_2
Grid Ref: 302768, 527896

Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560



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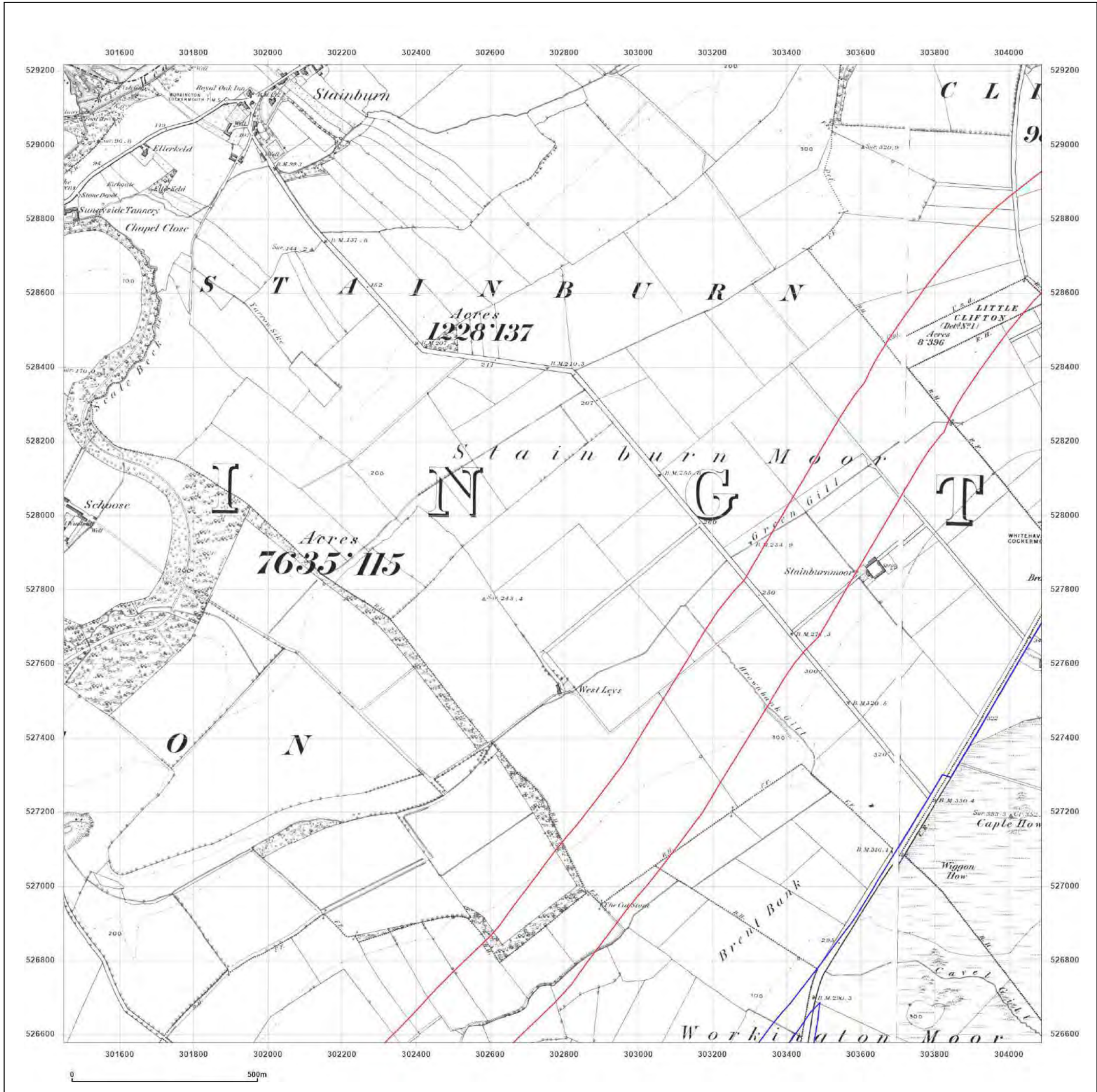


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Site Details:

CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_1_2
Grid Ref: 302768, 527896

Map Name: County Series

Map date: 1898-1899

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1899
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1863
 Revised 1899
 Edition N/A
 Copyright N/A
 Levelled N/A

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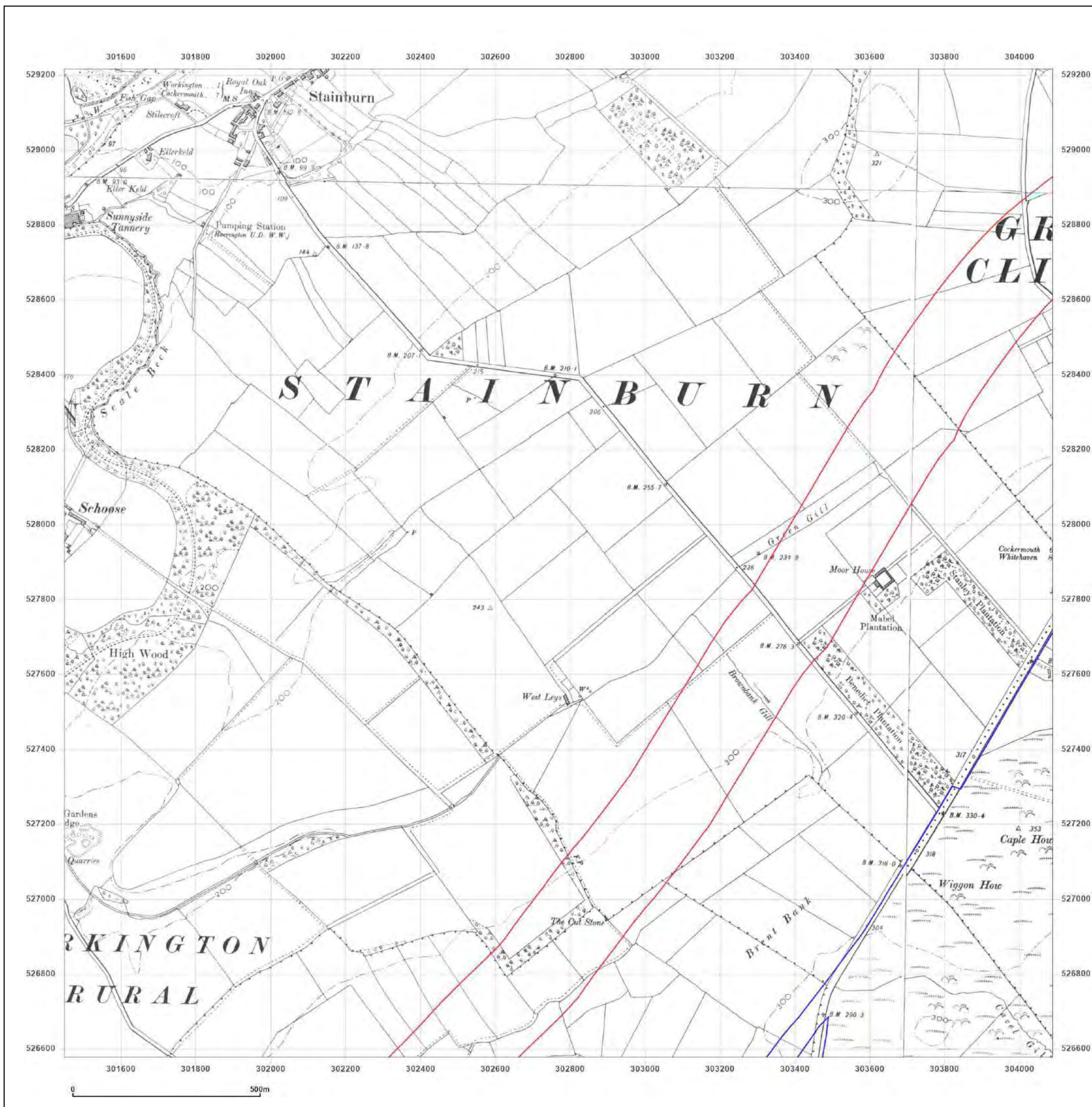


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Site Details:

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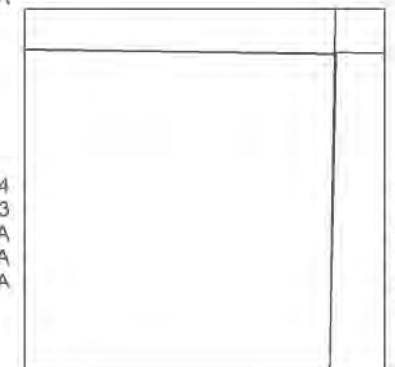
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Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

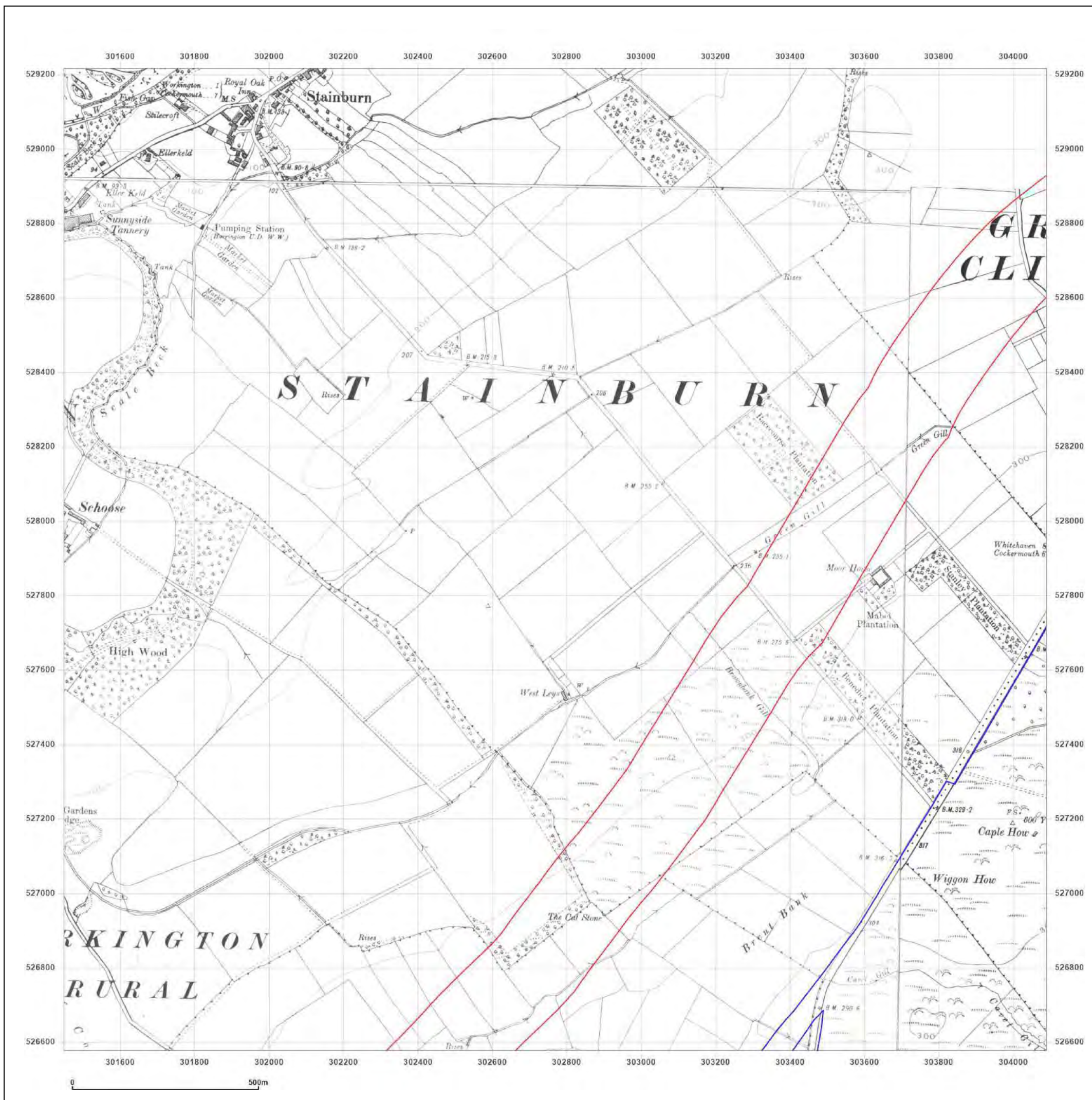


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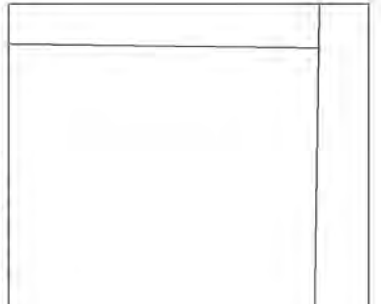
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Grid Ref: 302768, 527896

Map Name: County Series
Map date: 1938
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1864
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1864
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

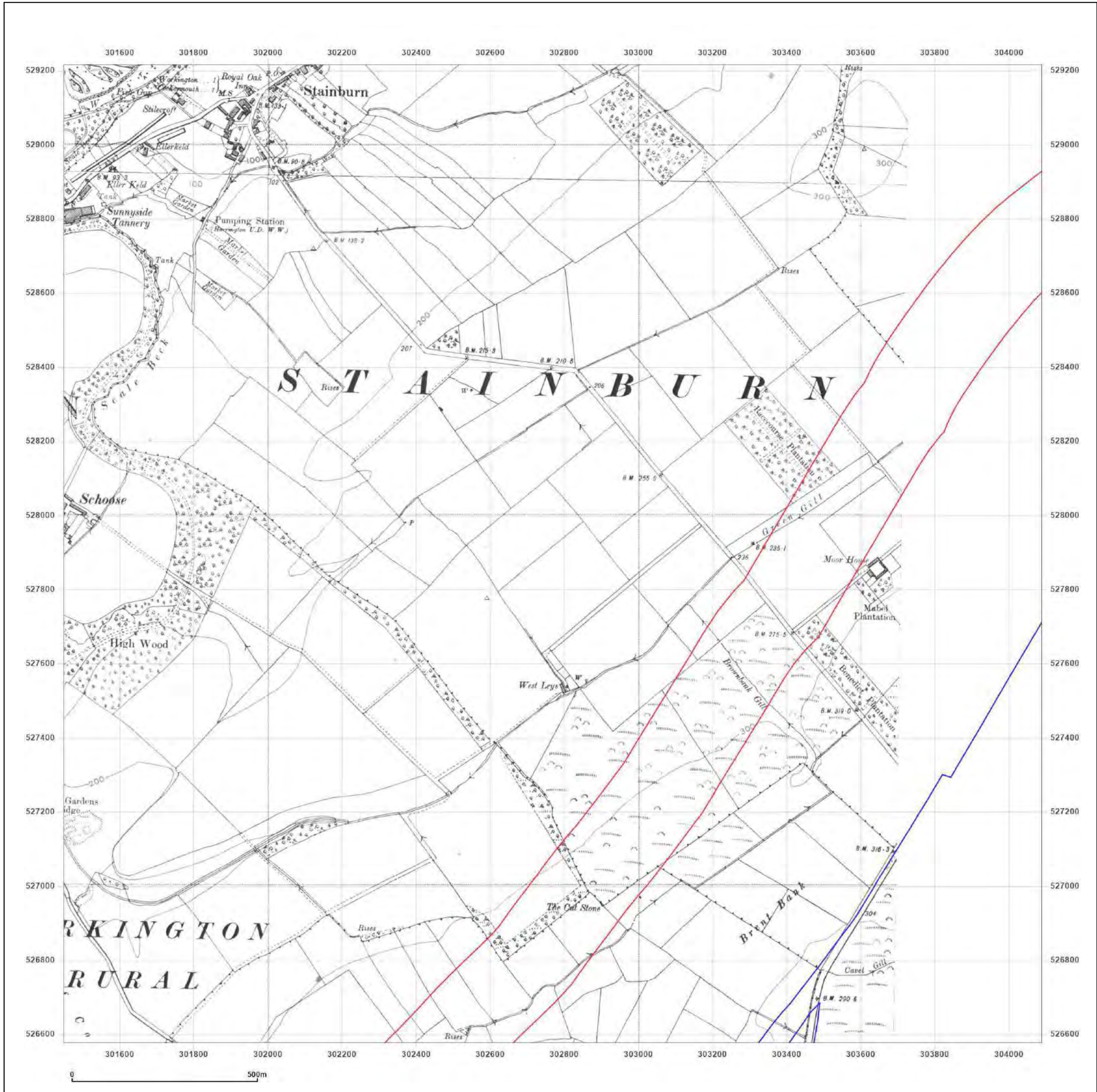
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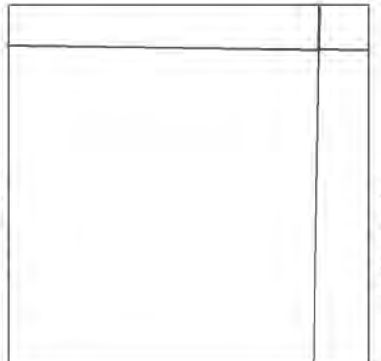
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Report Ref: GSIP-2024-14878-18376_SS_1_2
Grid Ref: 302768, 527896

Map Name: County Series
Map date: 1947
Scale: 1:10,560
Printed at: 1:10,560



<p>Surveyed 1864 Revised 1947 Edition 1947 Copyright N/A Levelled N/A</p>	<p>Surveyed 1863 Revised 1947 Edition N/A Copyright N/A Levelled N/A</p>
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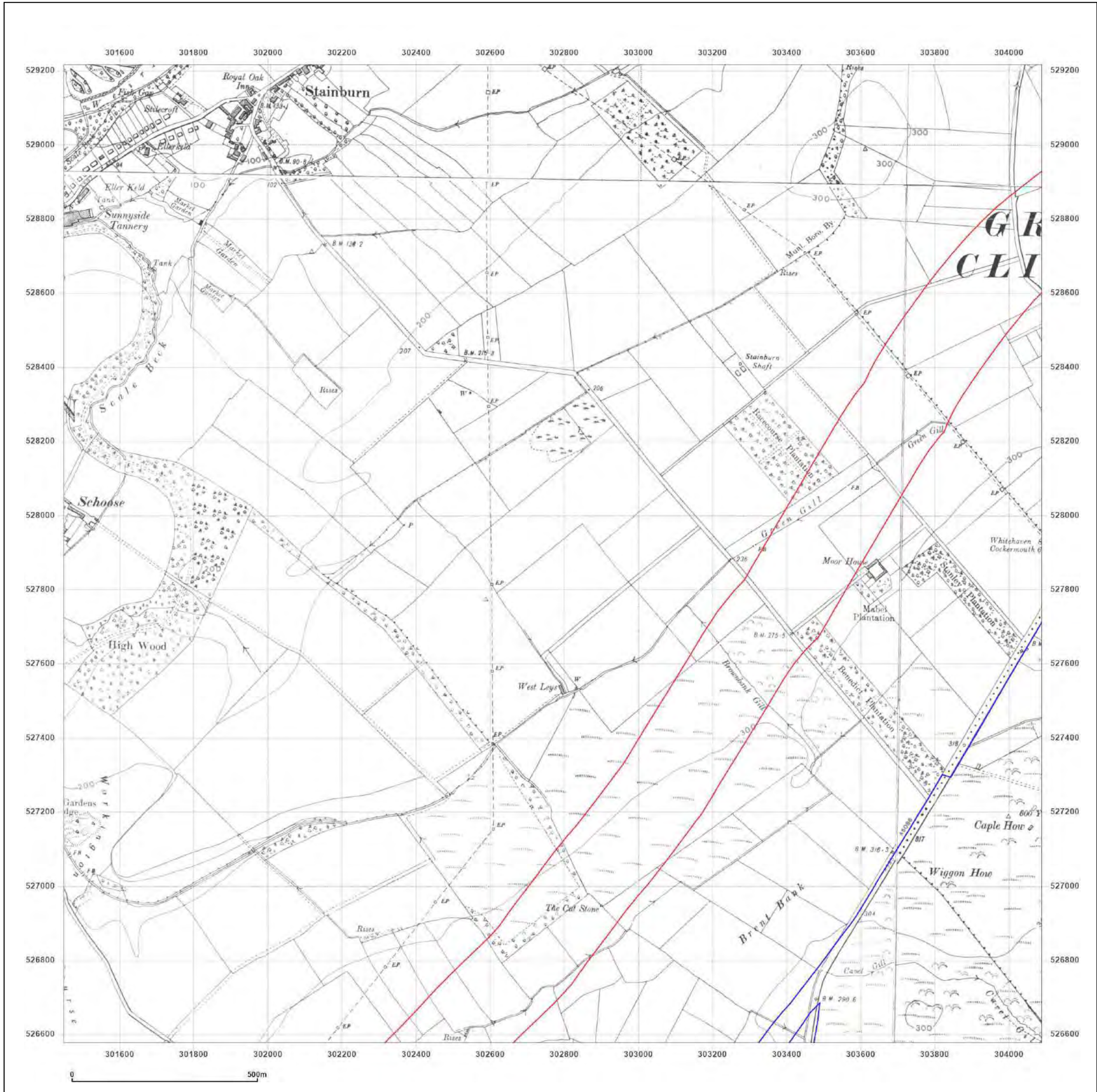


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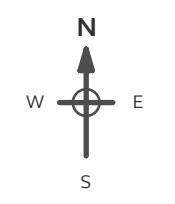
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Grid Ref: 302768, 527896

Map Name: Provisional

Map date: 1957

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
 Revised 1956
 Edition 1957
 Copyright N/A
 Levelled N/A

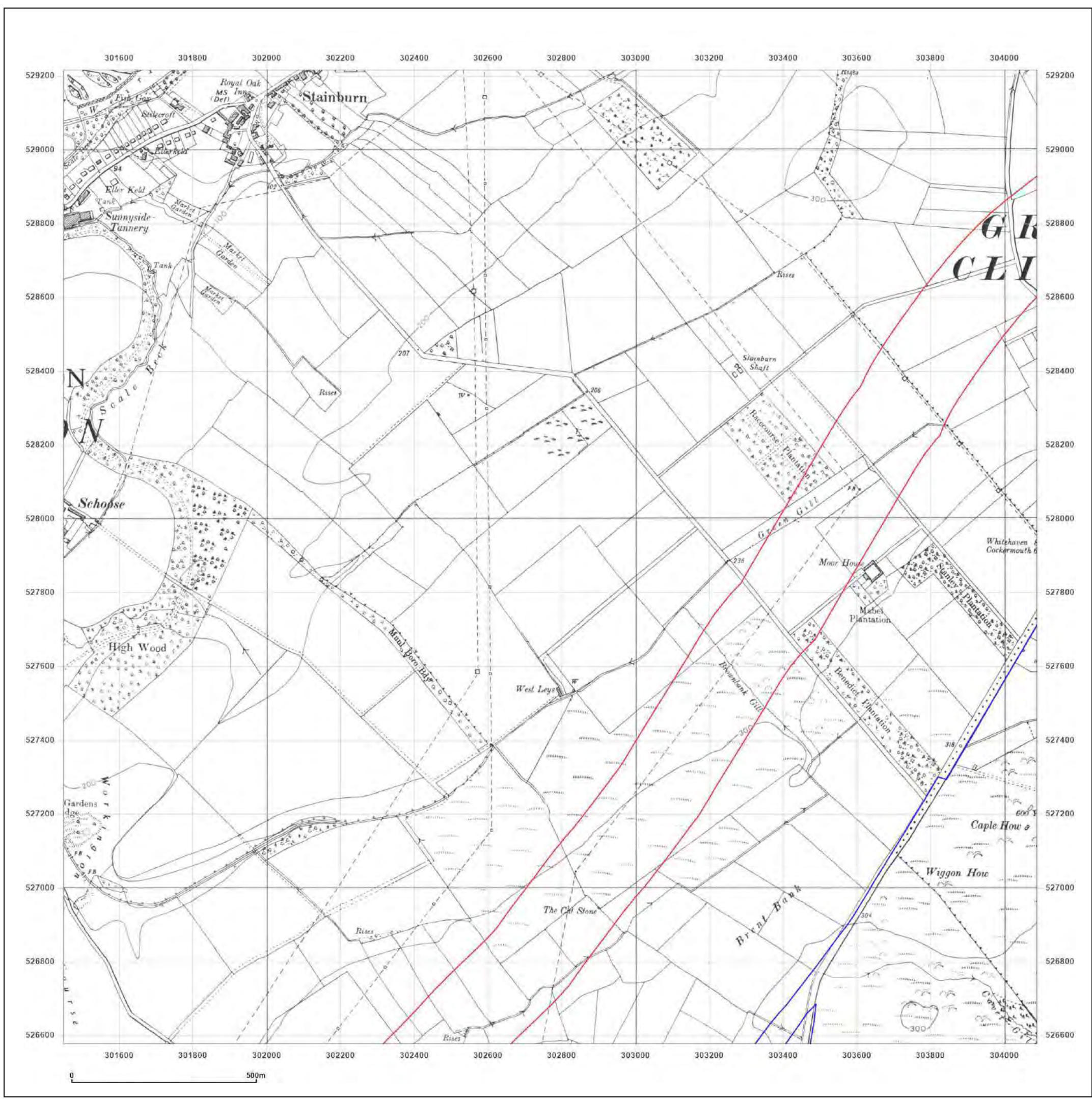


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Site Details:

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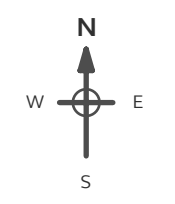
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Grid Ref: 302768, 527896

Map Name: National Grid

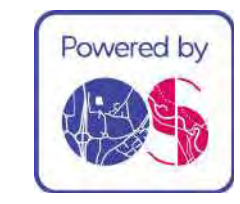
Map date: 1981

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1979
 Revised 1981
 Edition N/A
 Copyright N/A
 Levelled N/A

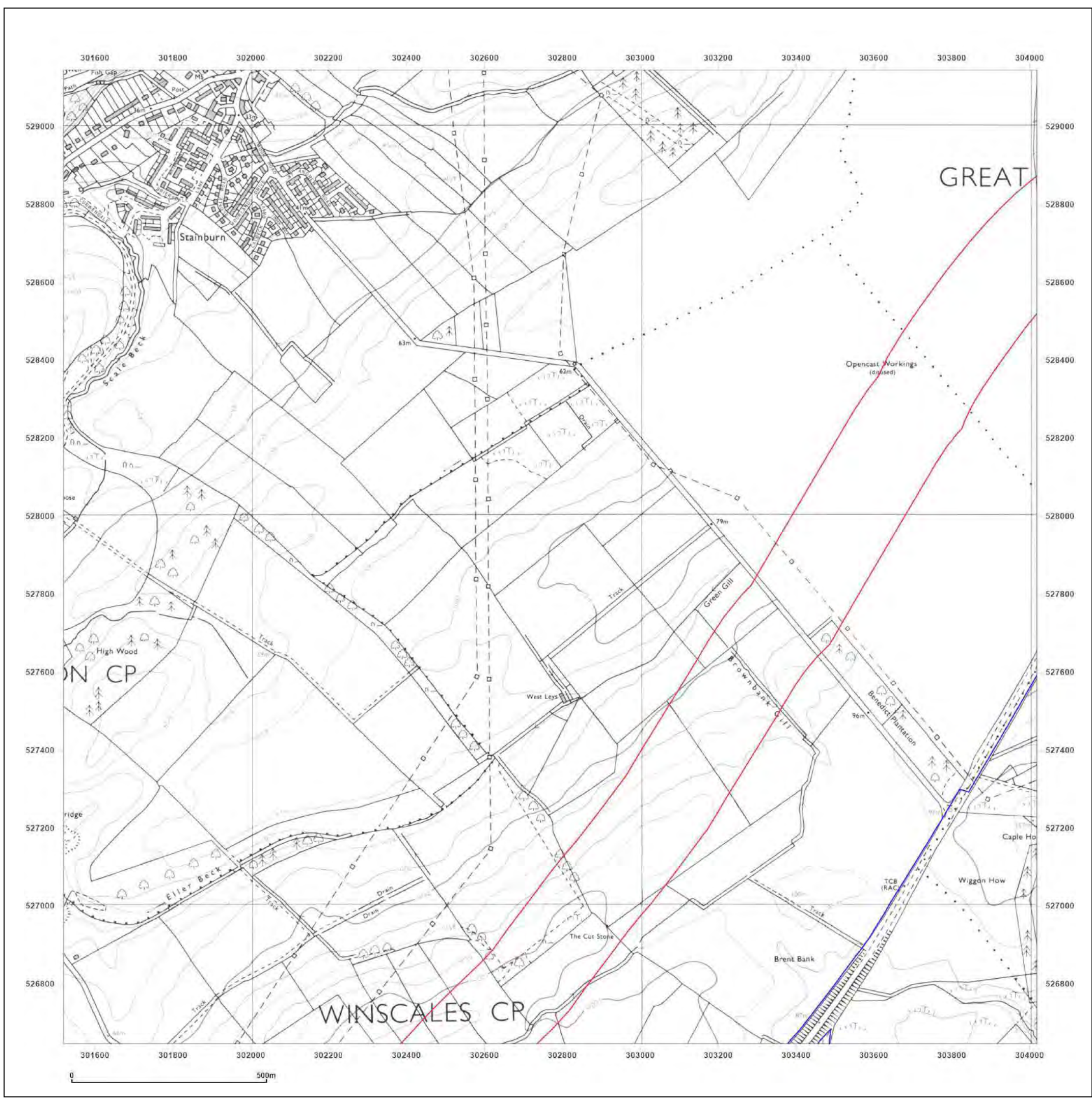


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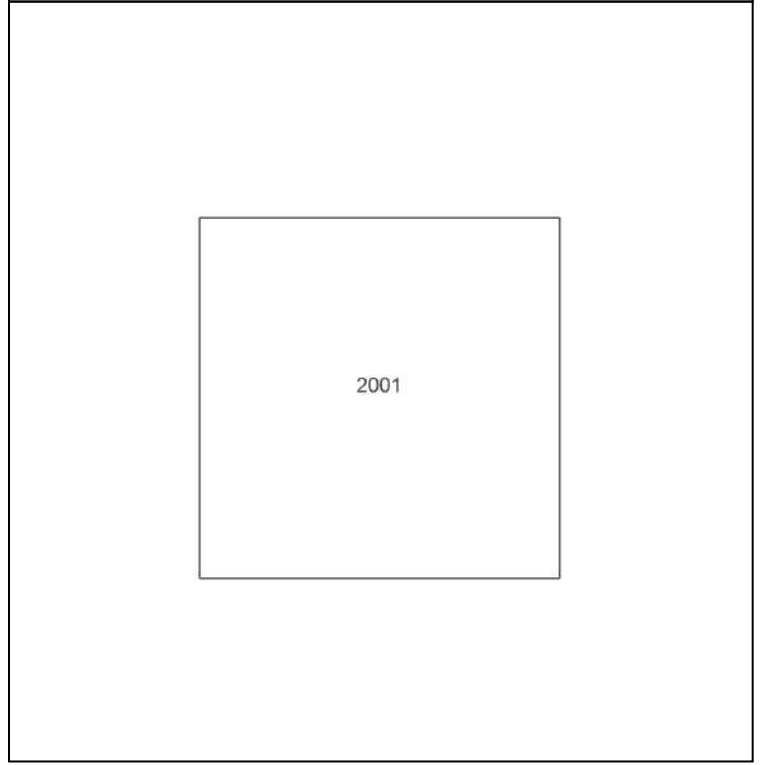
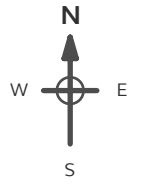
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Site Details:
 CA12978 - Cumbria

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Report Ref: GSIP-2024-14878-18376_SS_1_2
Grid Ref: 302768, 527896

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Printed at: 1:10,000

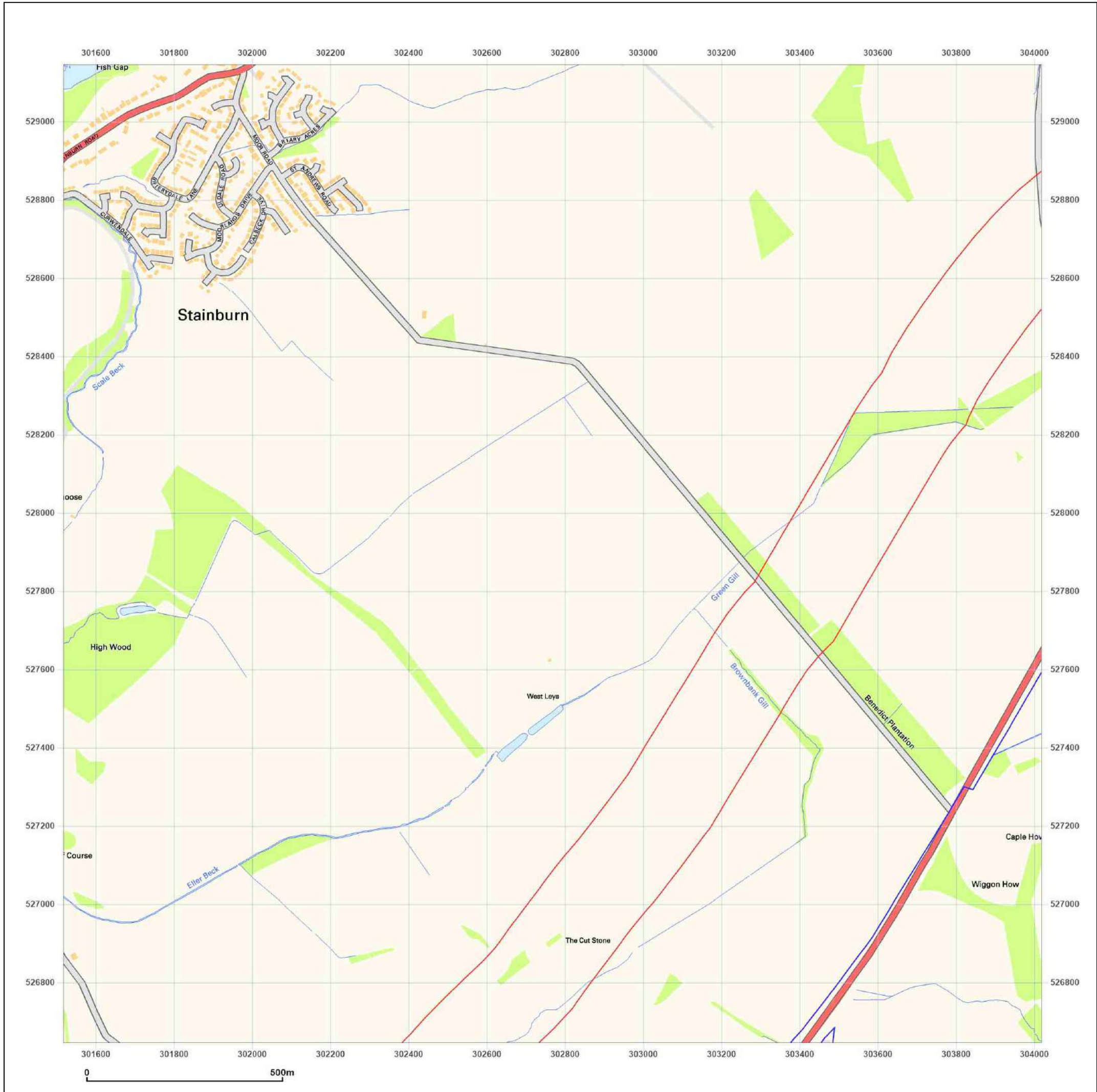


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Site Details:

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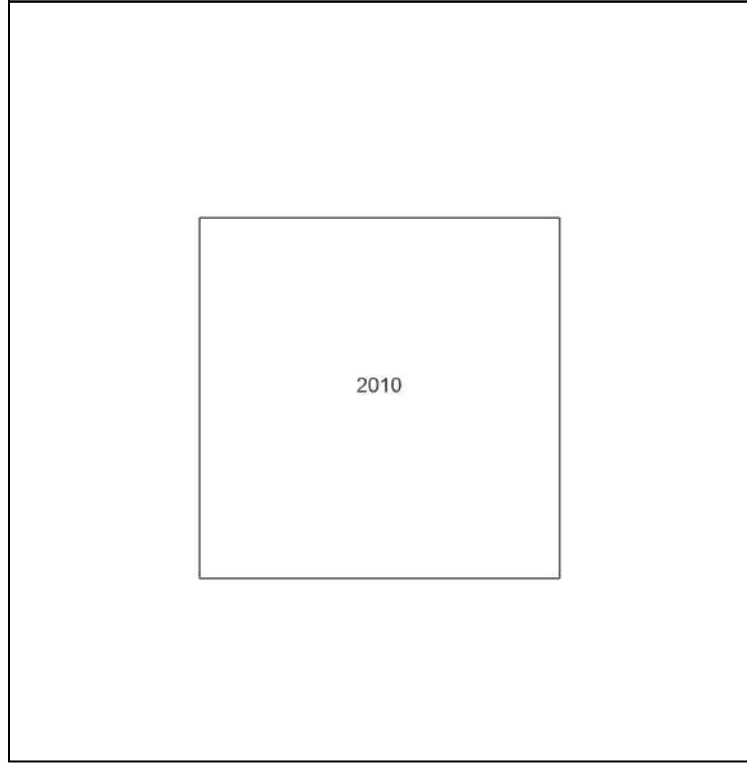
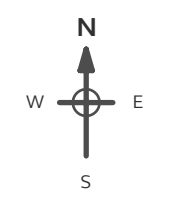
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Grid Ref: 302768, 527896

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

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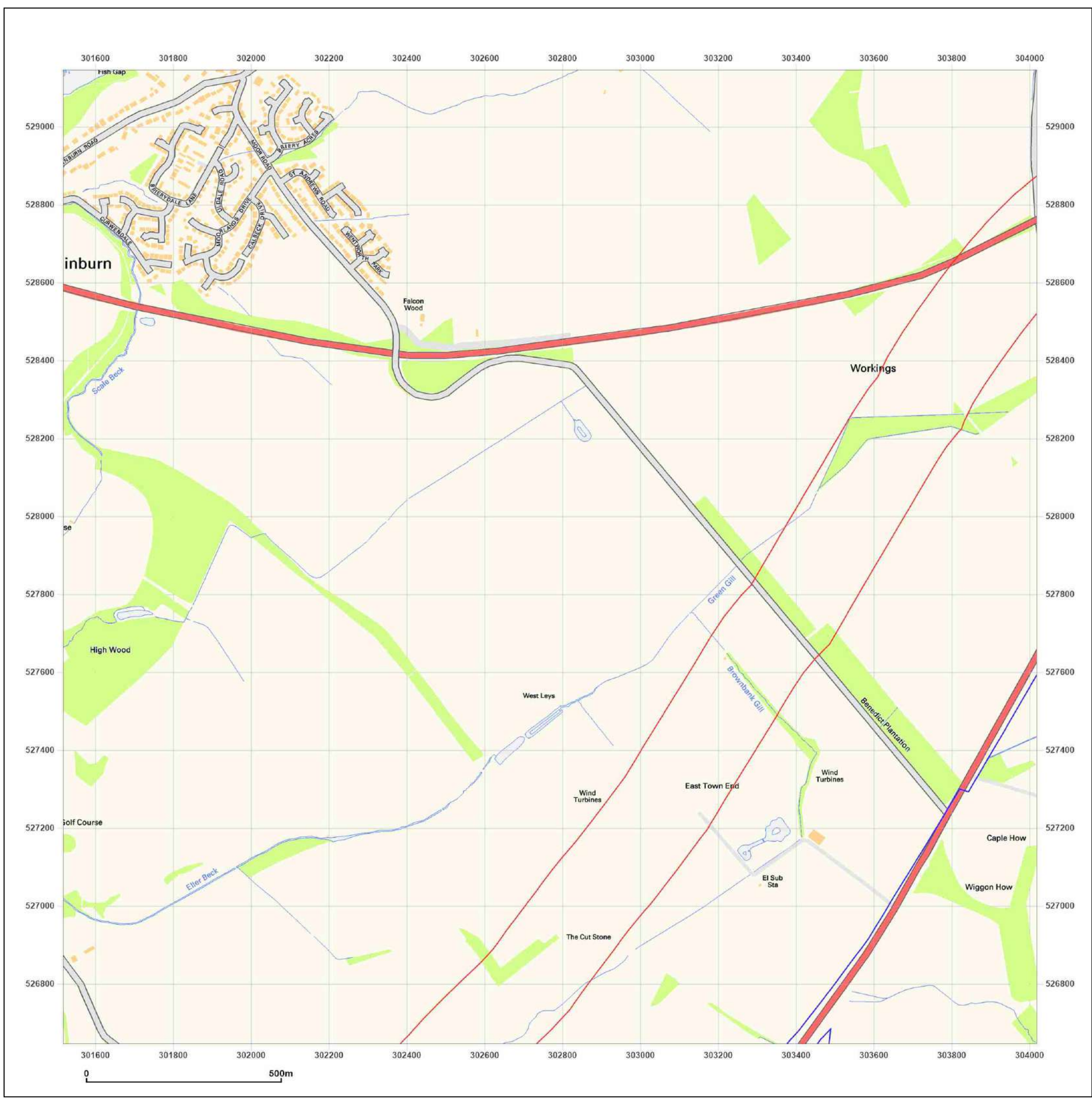


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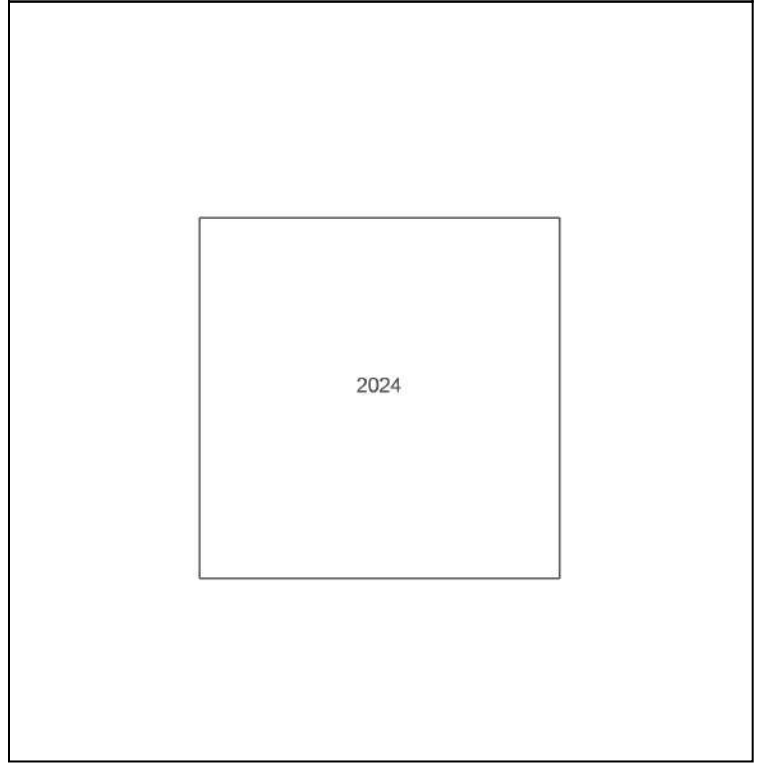
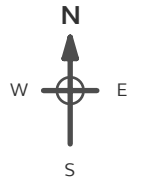
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Site Details:
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Grid Ref: 302768, 527896

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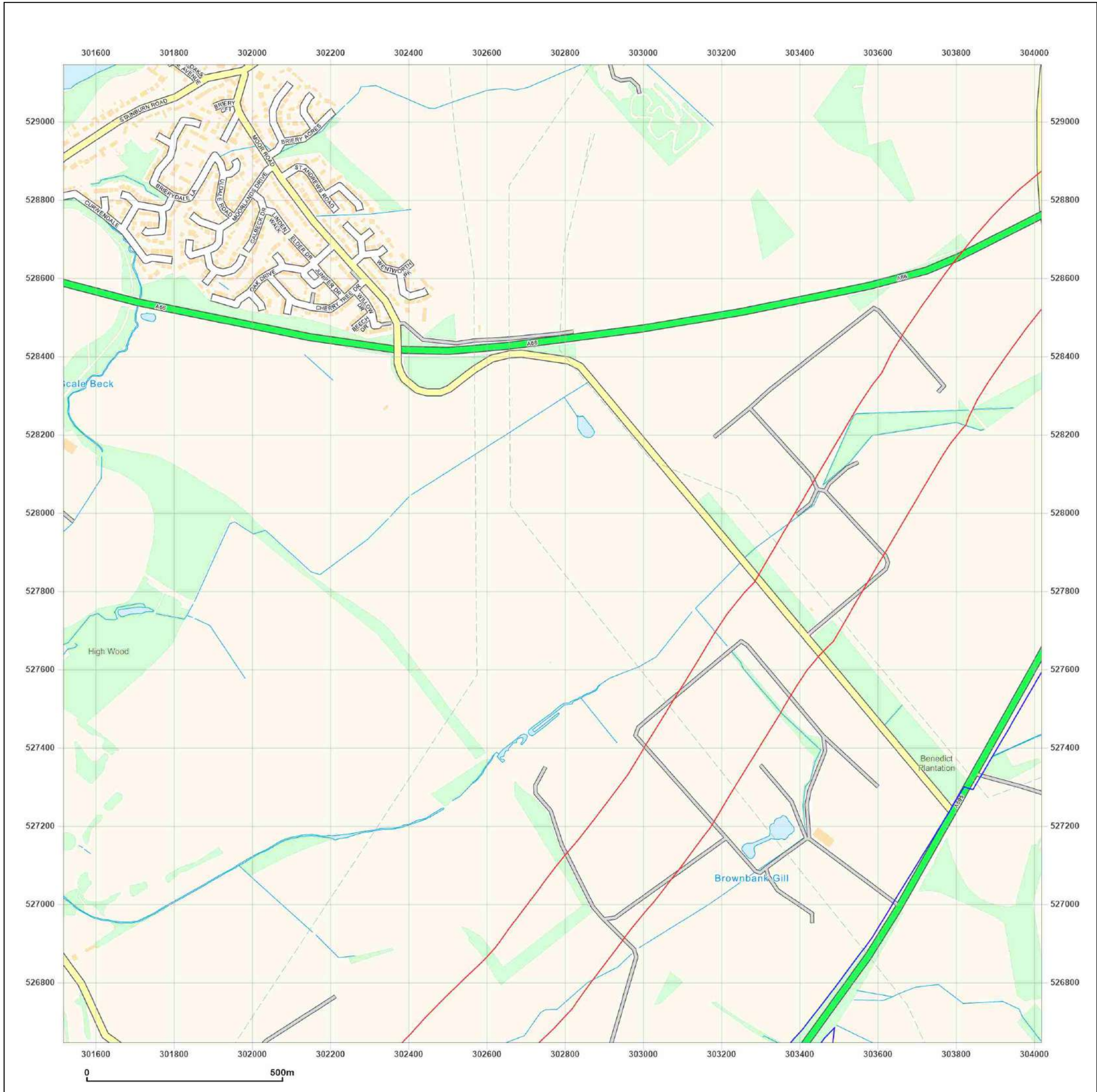


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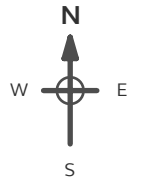
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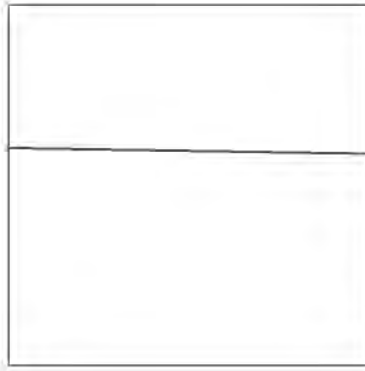
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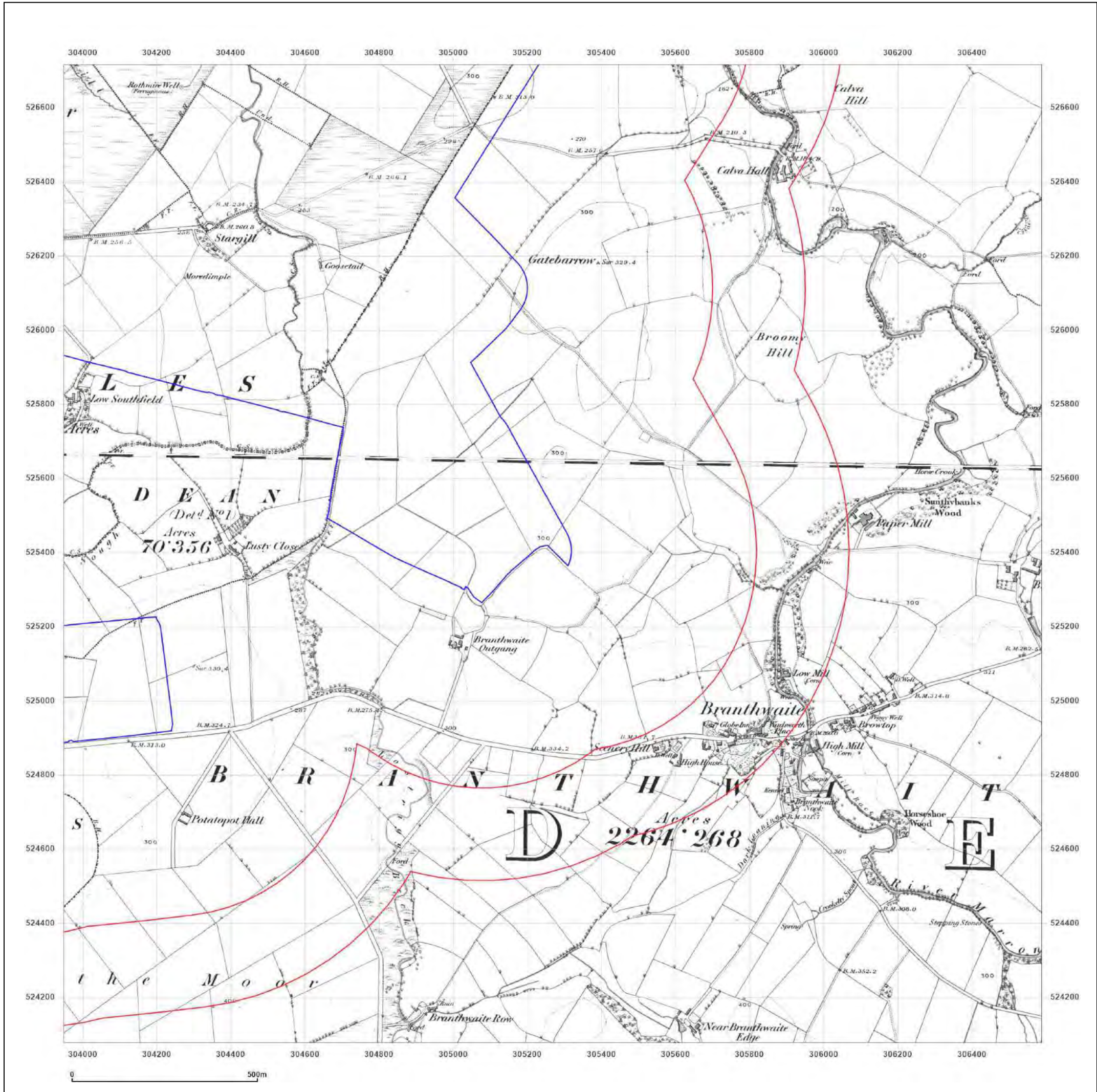
Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1864
 Revised 1864
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1864
 Revised 1864
 Edition N/A
 Copyright N/A
 Levelled N/A




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Site Details:
CA12978 - Cumbria

Client Ref: CA12978 - Cumbria
Report Ref: GSIP-2024-14878-18376_SS_2_1
Grid Ref: 305268, 525396

Map Name: County Series
Map date: 1898
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1864
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

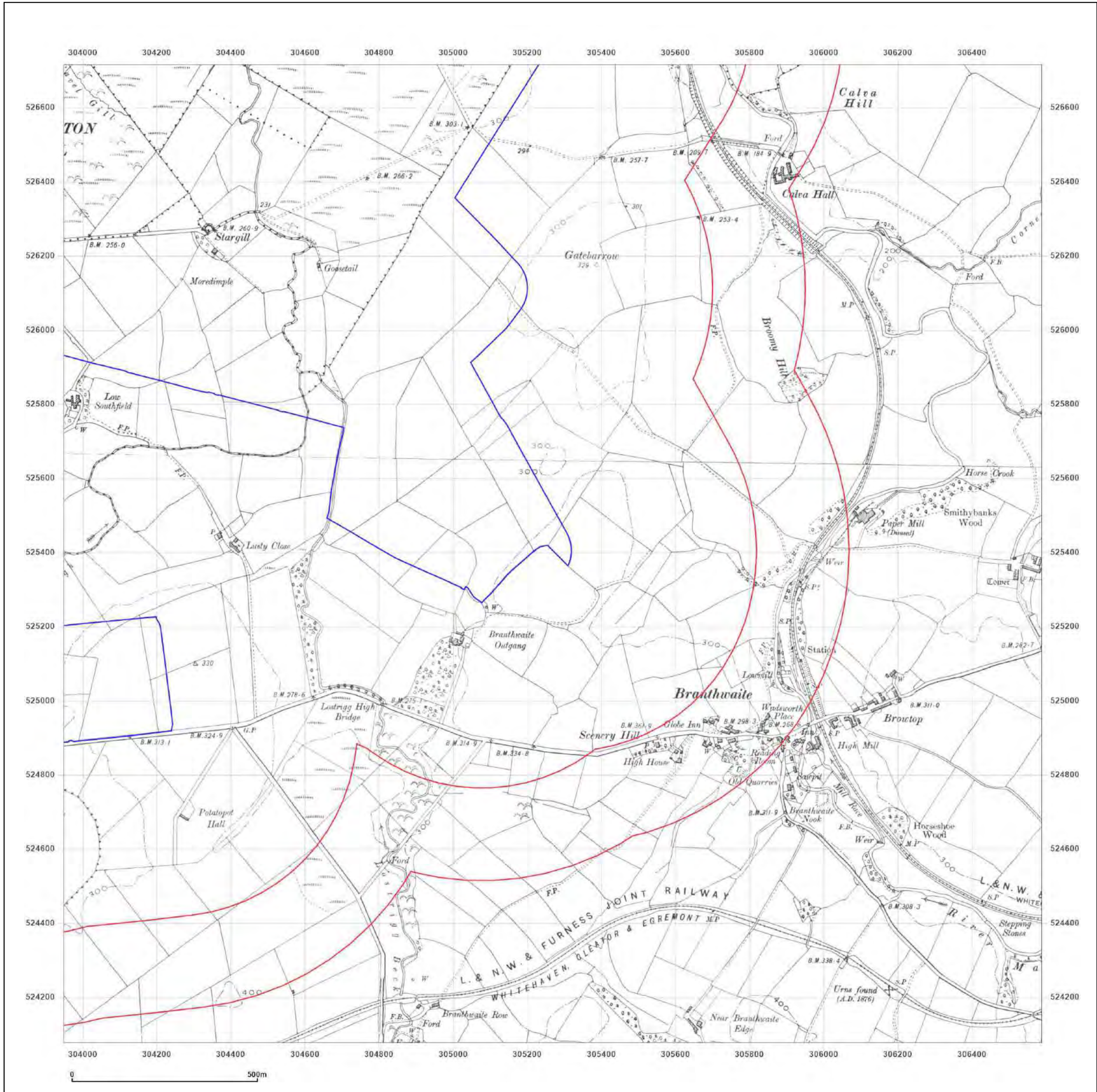
Surveyed 1867
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

CA12978 - Cumbria

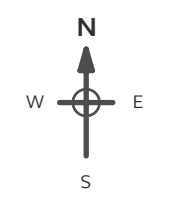
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Map Name: County Series

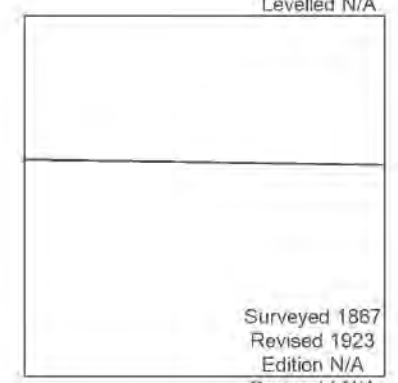
Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1867
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

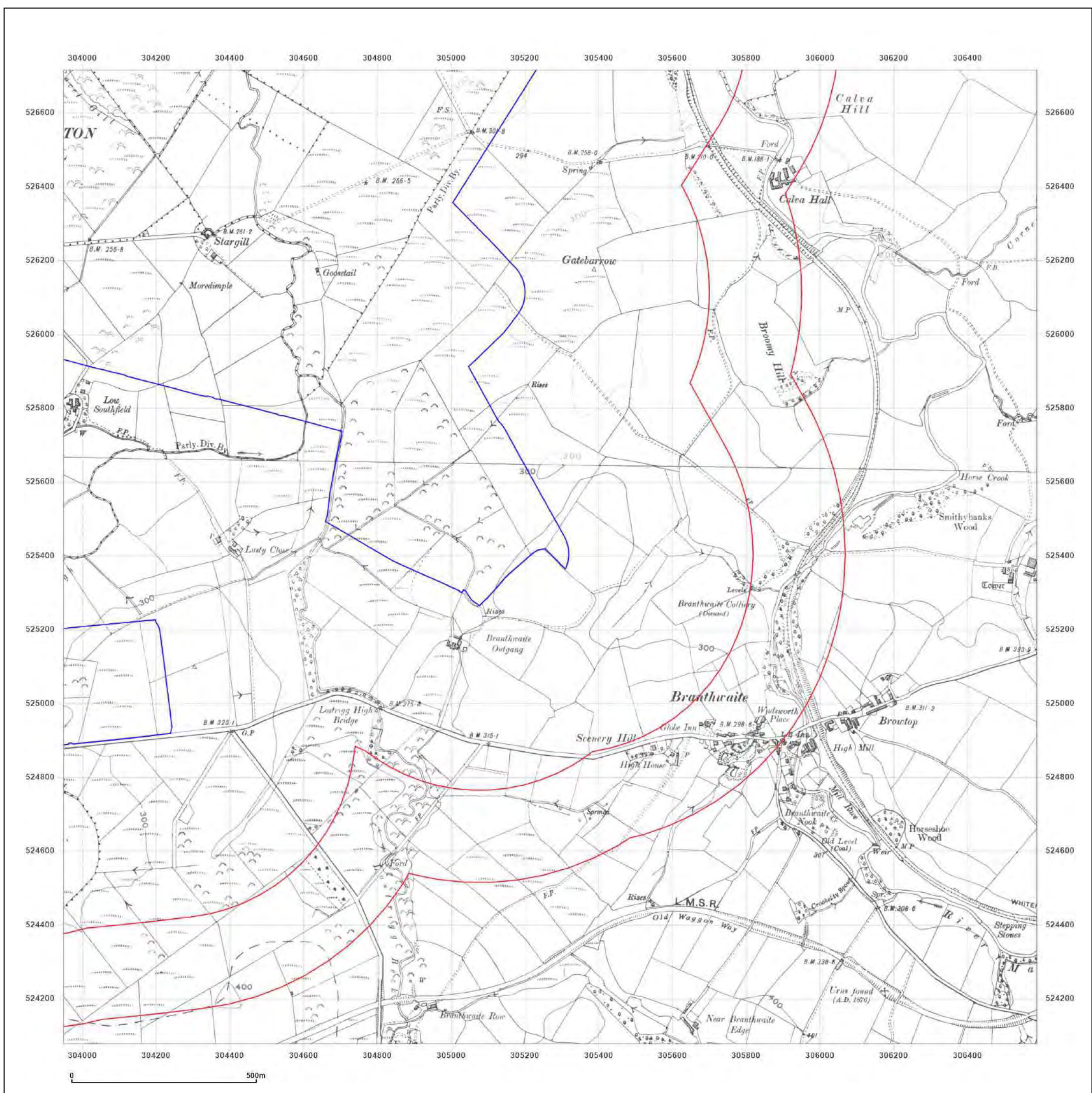


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Site Details:

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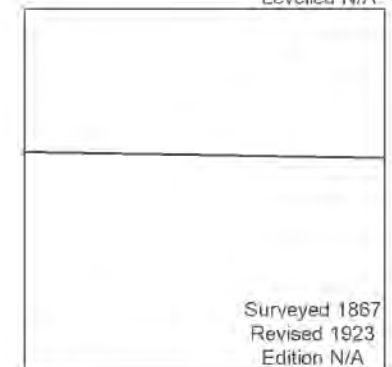
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Surveyed 1864
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1867
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

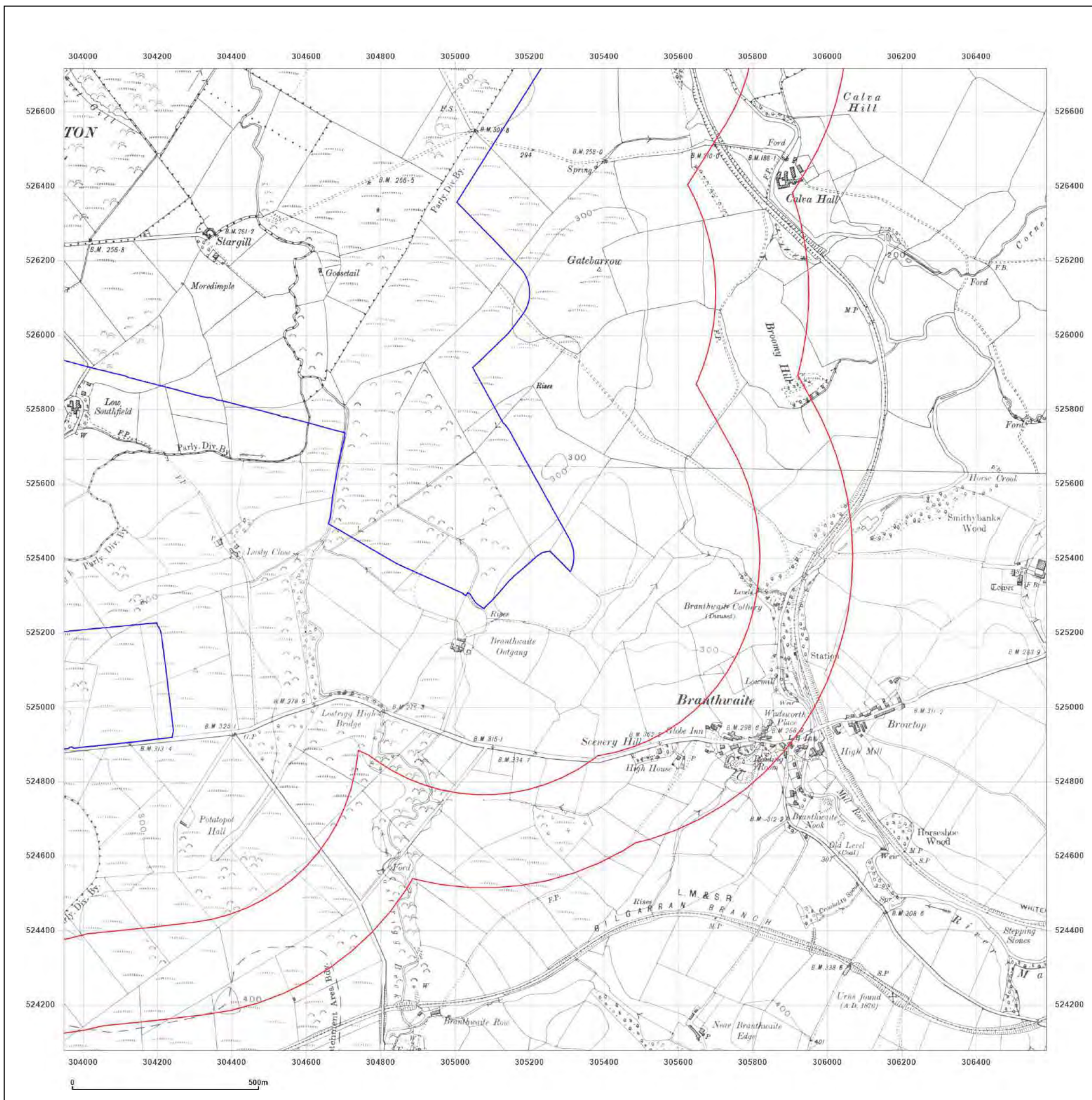


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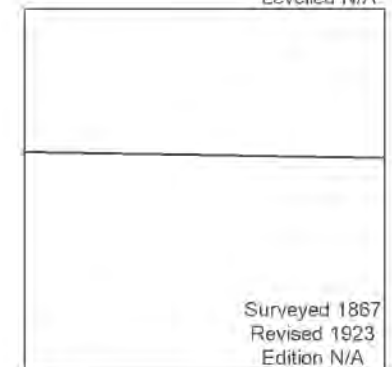
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Surveyed 1864
 Revised 1923
 Edition N/A
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 Levelled N/A



Surveyed 1867
 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

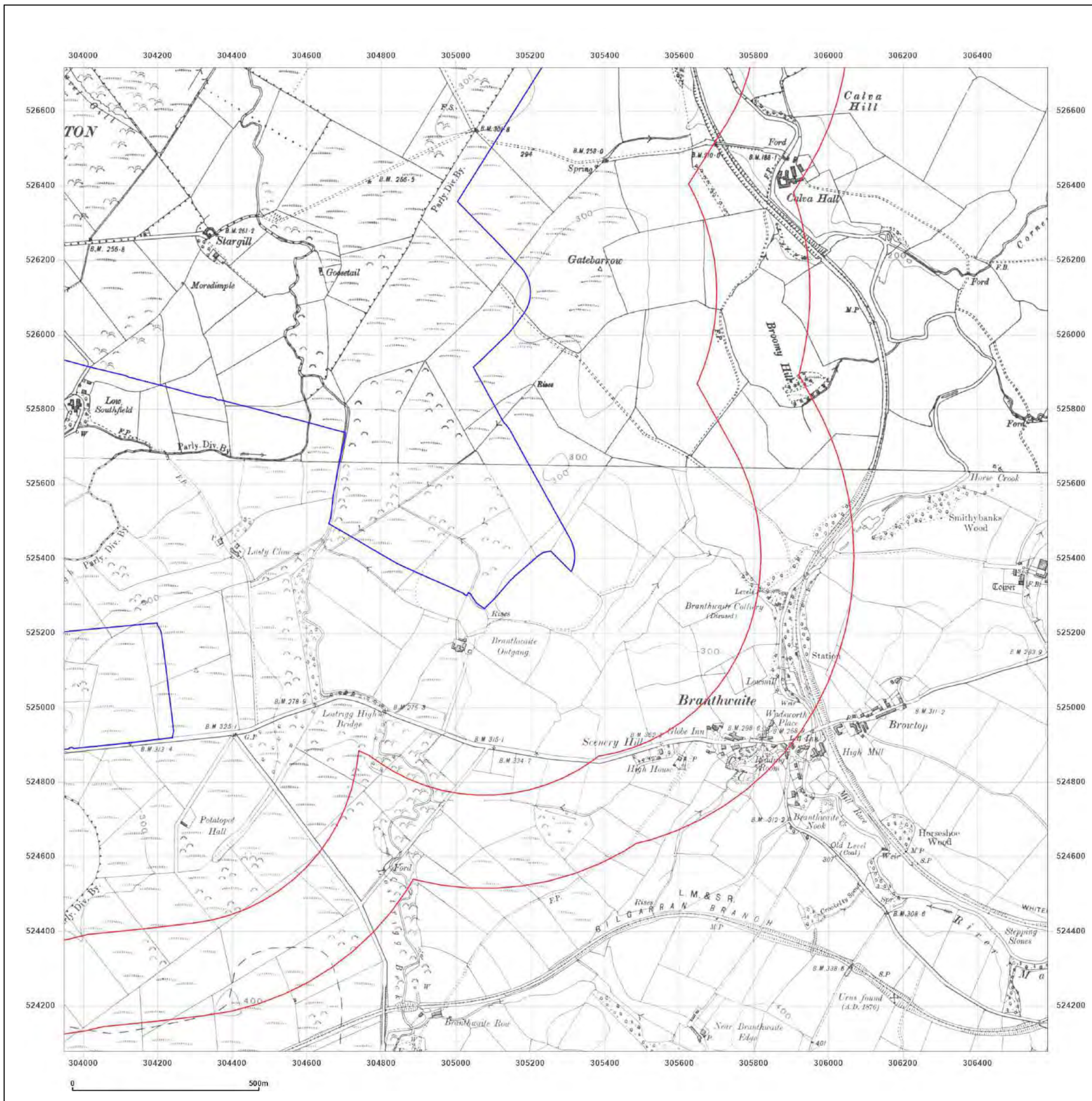


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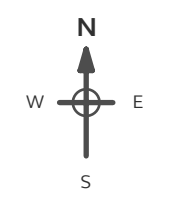
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Map Name: County Series

Map date: 1927

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
 Revised 1927
 Edition N/A
 Copyright N/A
 Levelled N/A

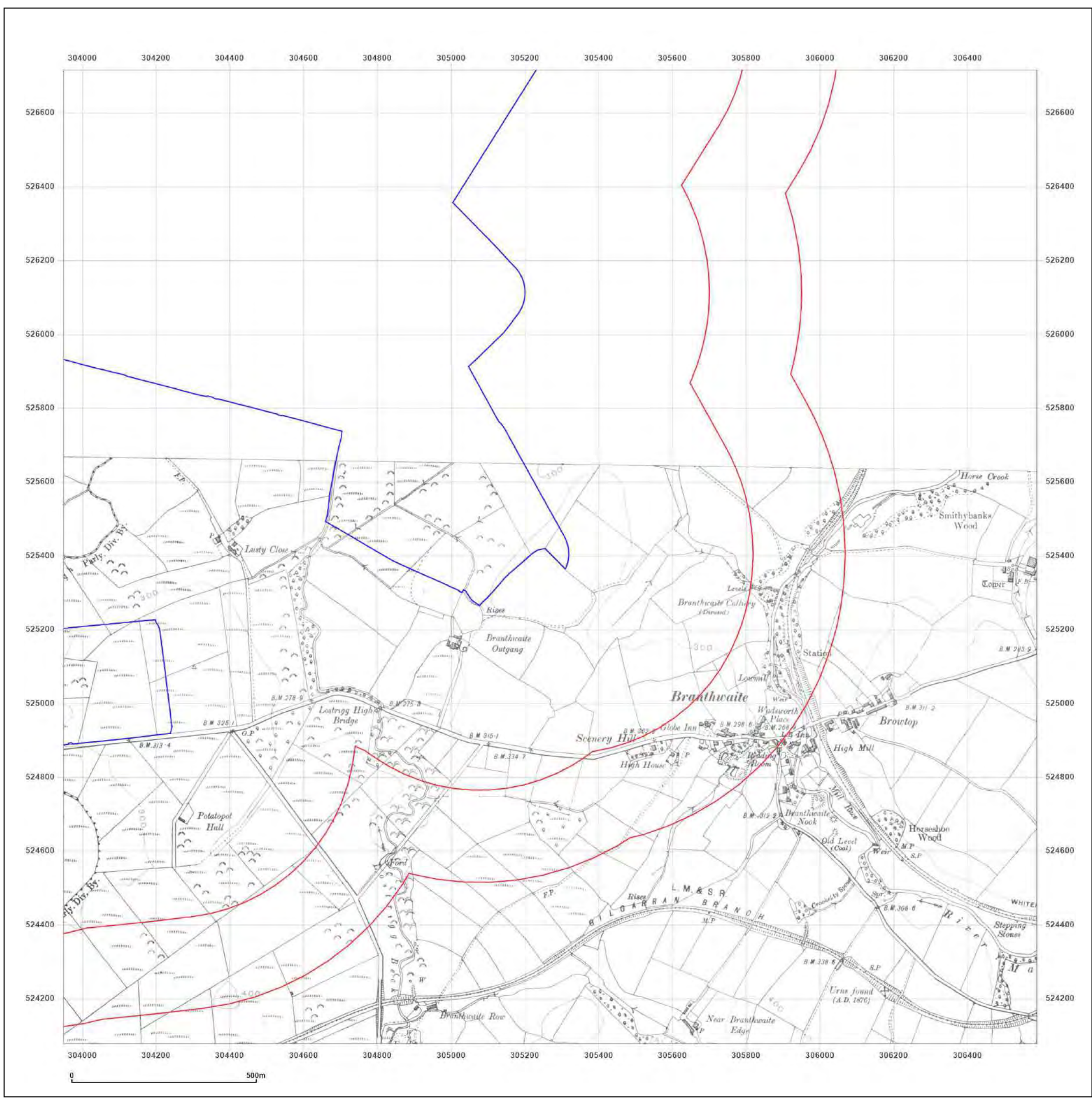


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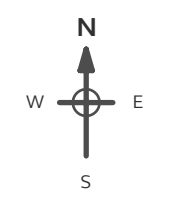
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Map Name: County Series

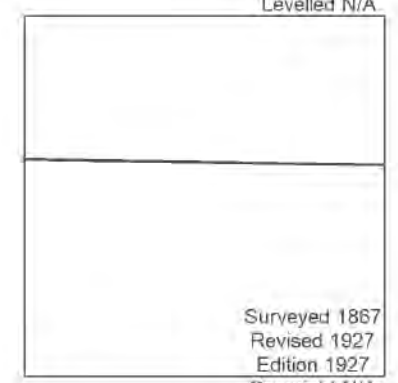
Map date: 1926-1927

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1926
 Edition 1926
 Copyright N/A
 Levelled N/A



Surveyed 1867
 Revised 1927
 Edition 1927
 Copyright N/A
 Levelled N/A

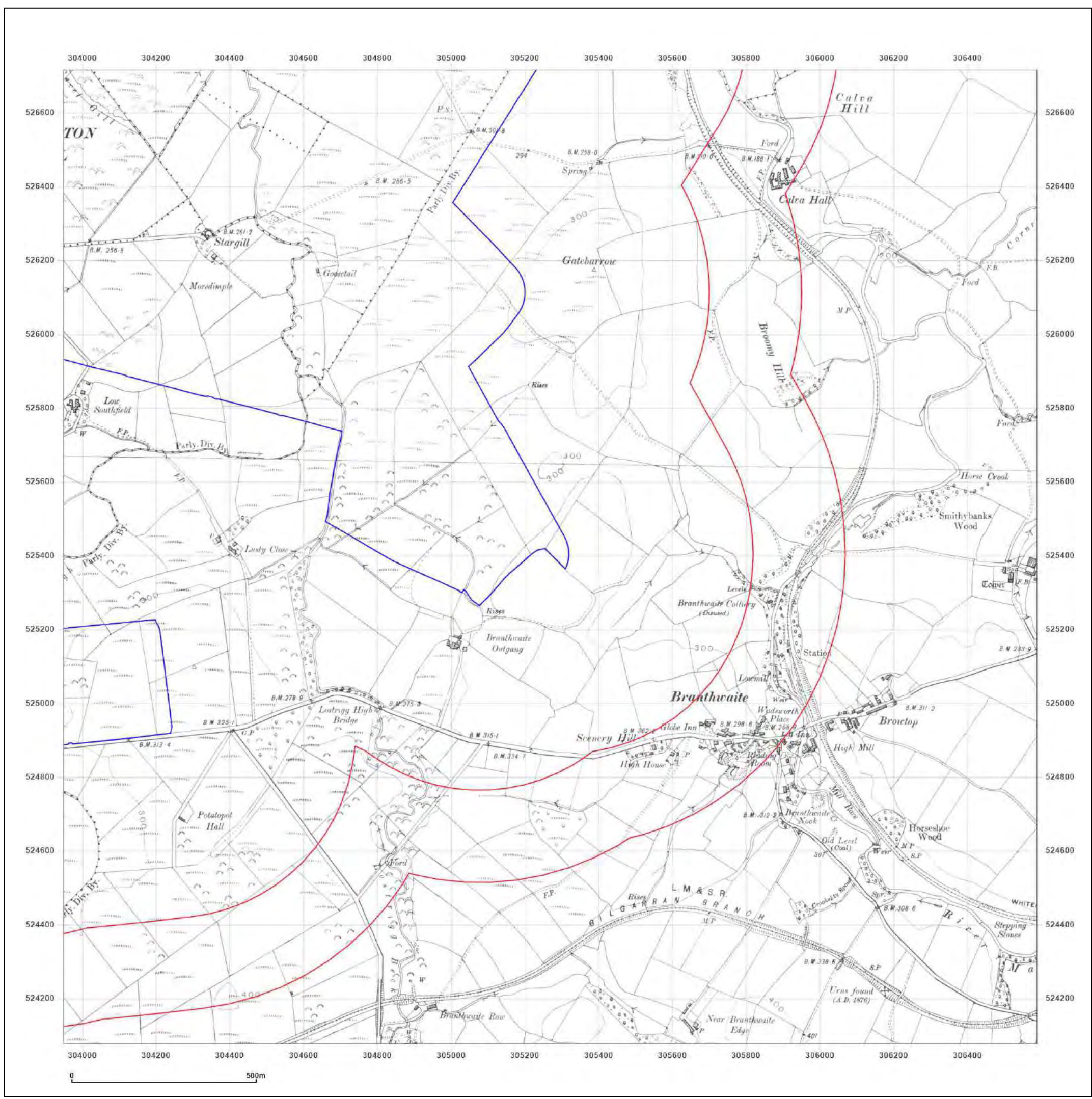


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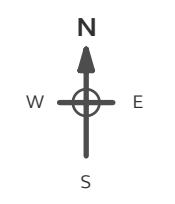
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Map Name: County Series

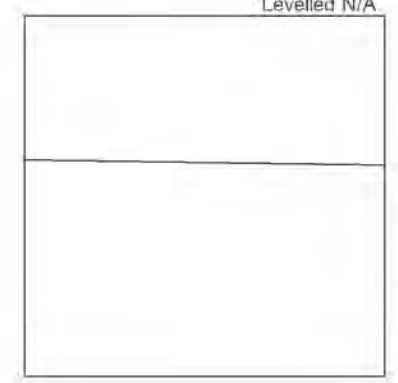
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Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1947
 Edition N/A
 Copyright N/A
 Levelled N/A

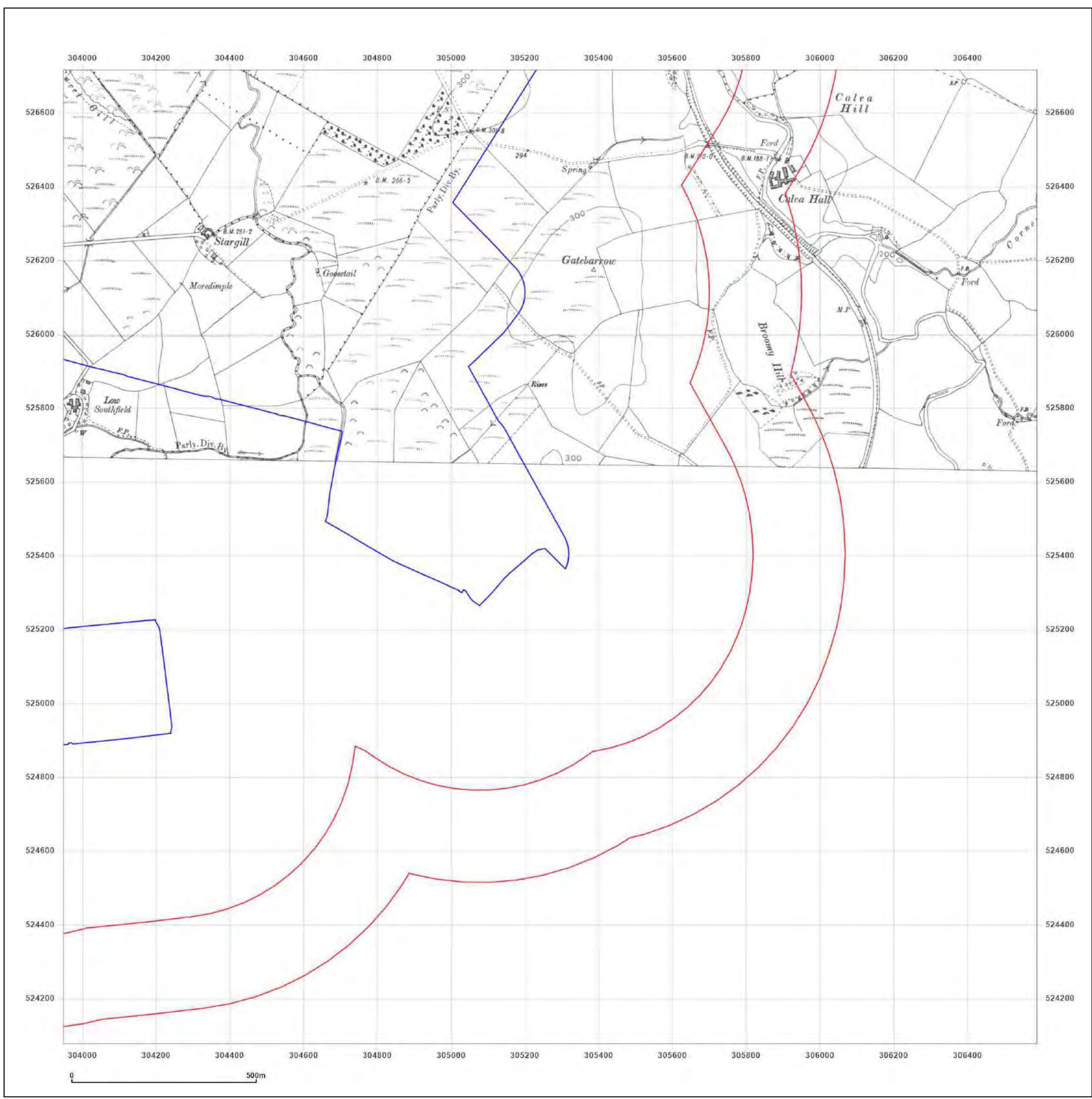


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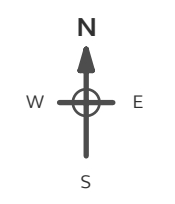
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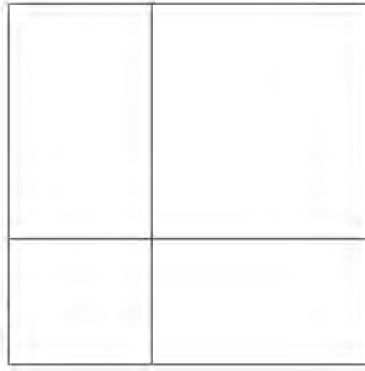
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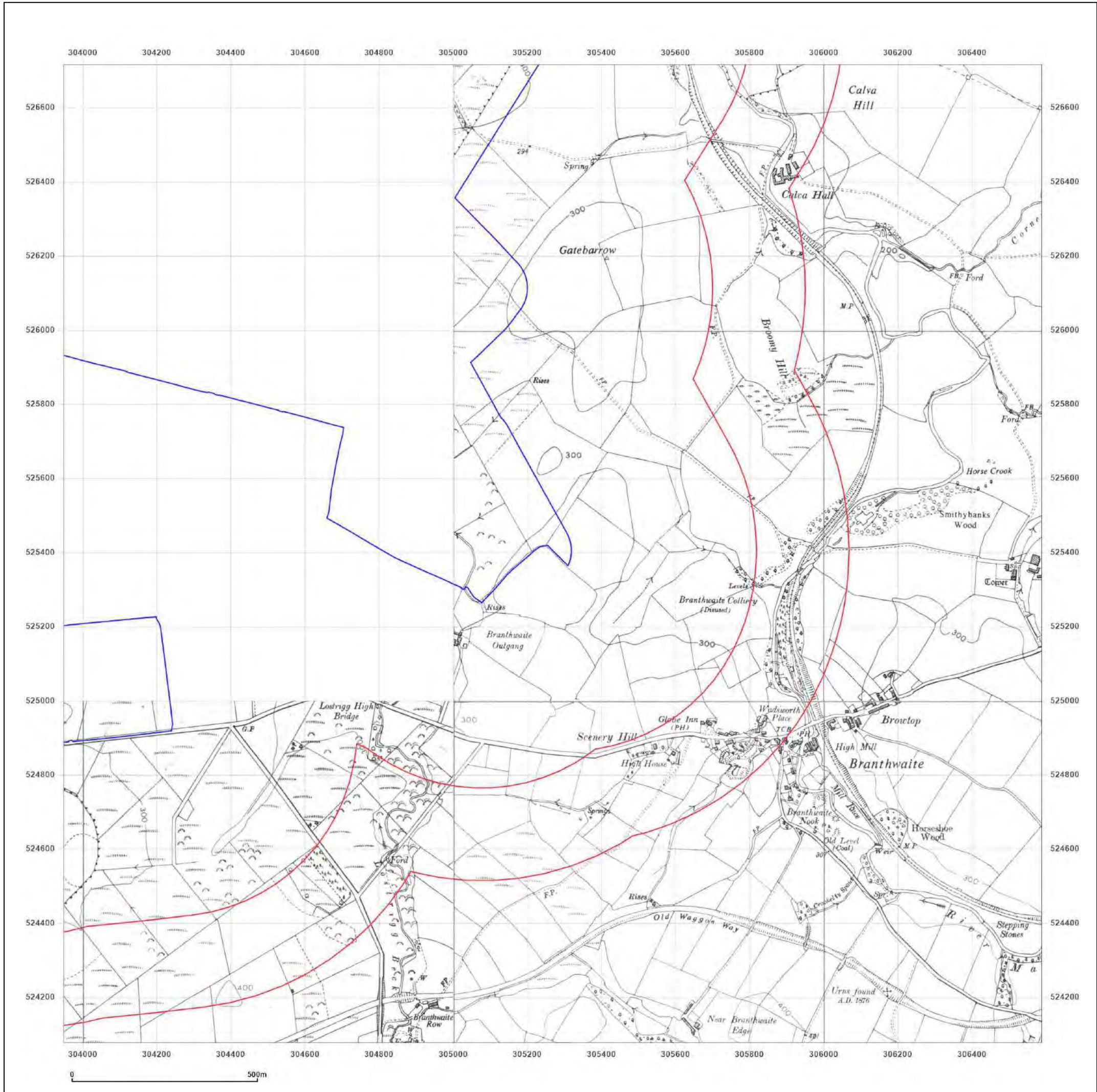
Map date: 1951

Scale: 1:10,560

Printed at: 1:10,560



<p>Surveyed 1951 Revised 1951 Edition N/A Copyright N/A Levelled N/A</p>		<p>Surveyed 1951 Revised 1951 Edition N/A Copyright N/A Levelled N/A</p>
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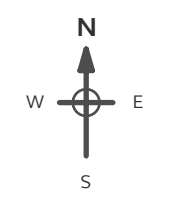
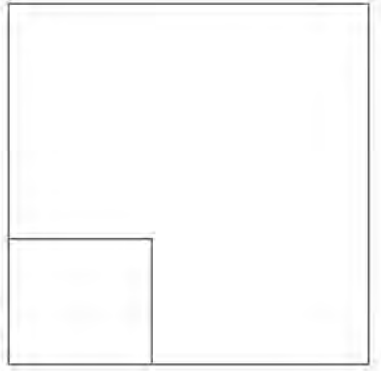
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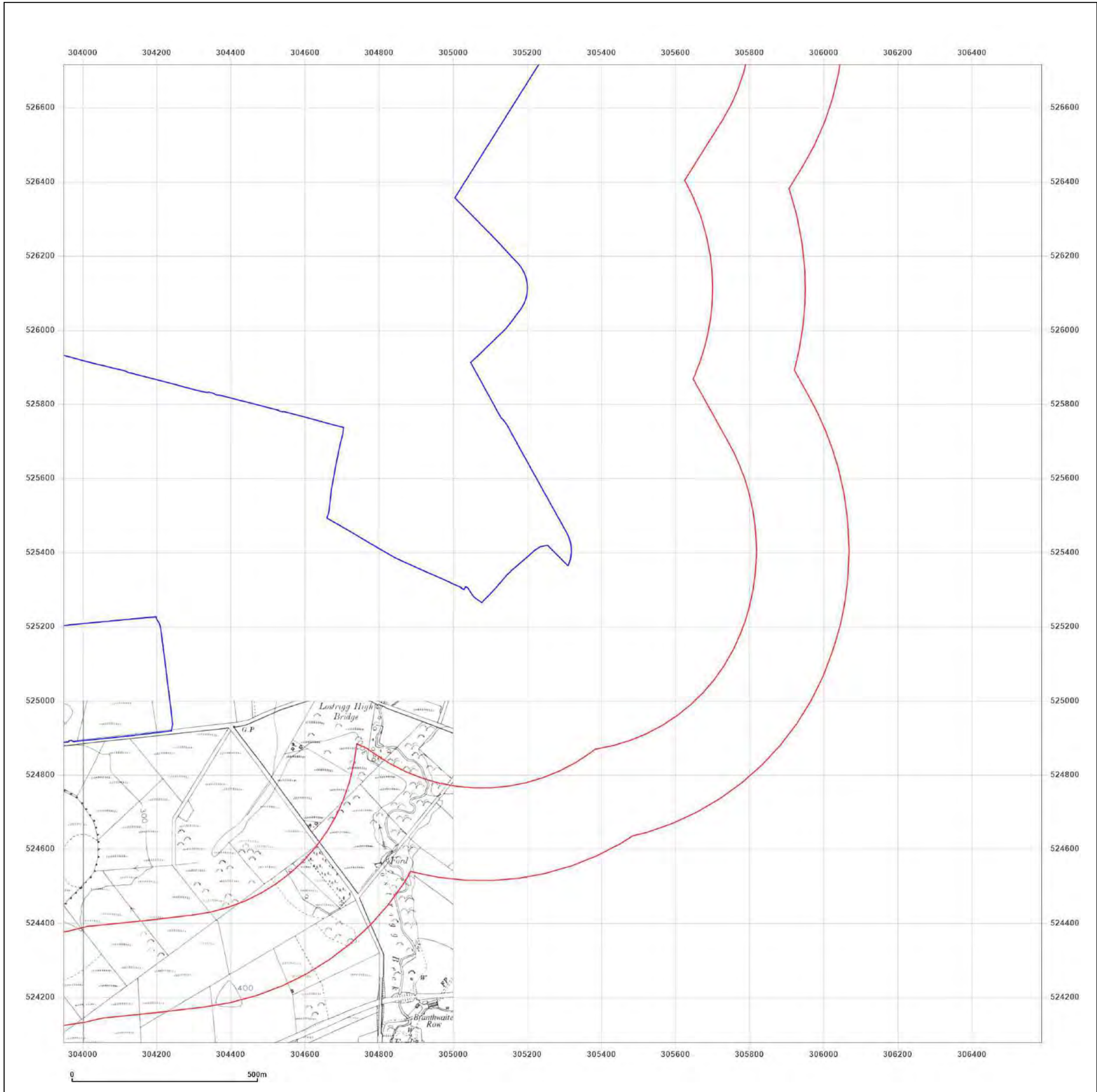
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Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled N/A



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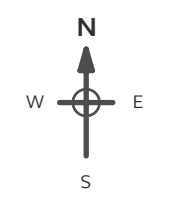
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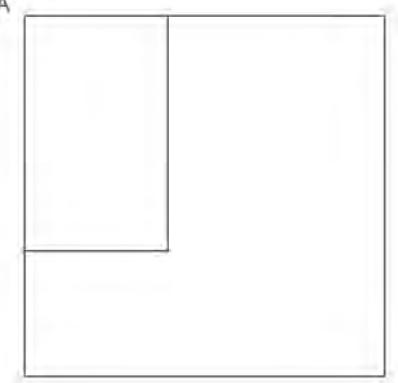
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Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
 Revised 1956
 Edition 1957
 Copyright N/A
 Levelled N/A

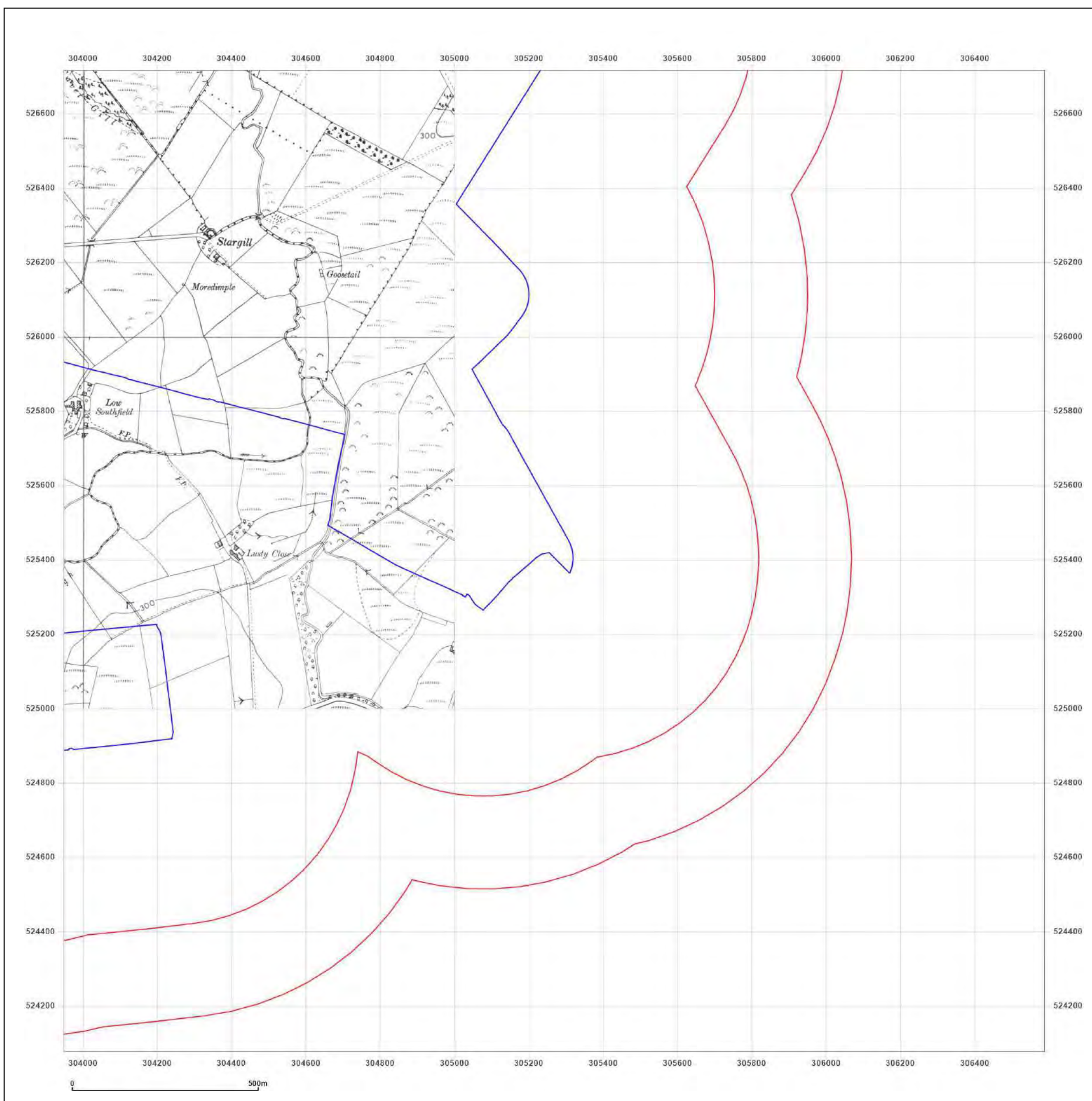


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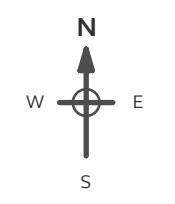
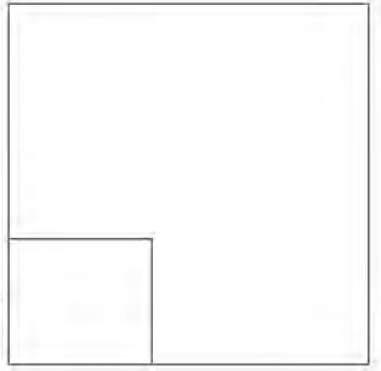
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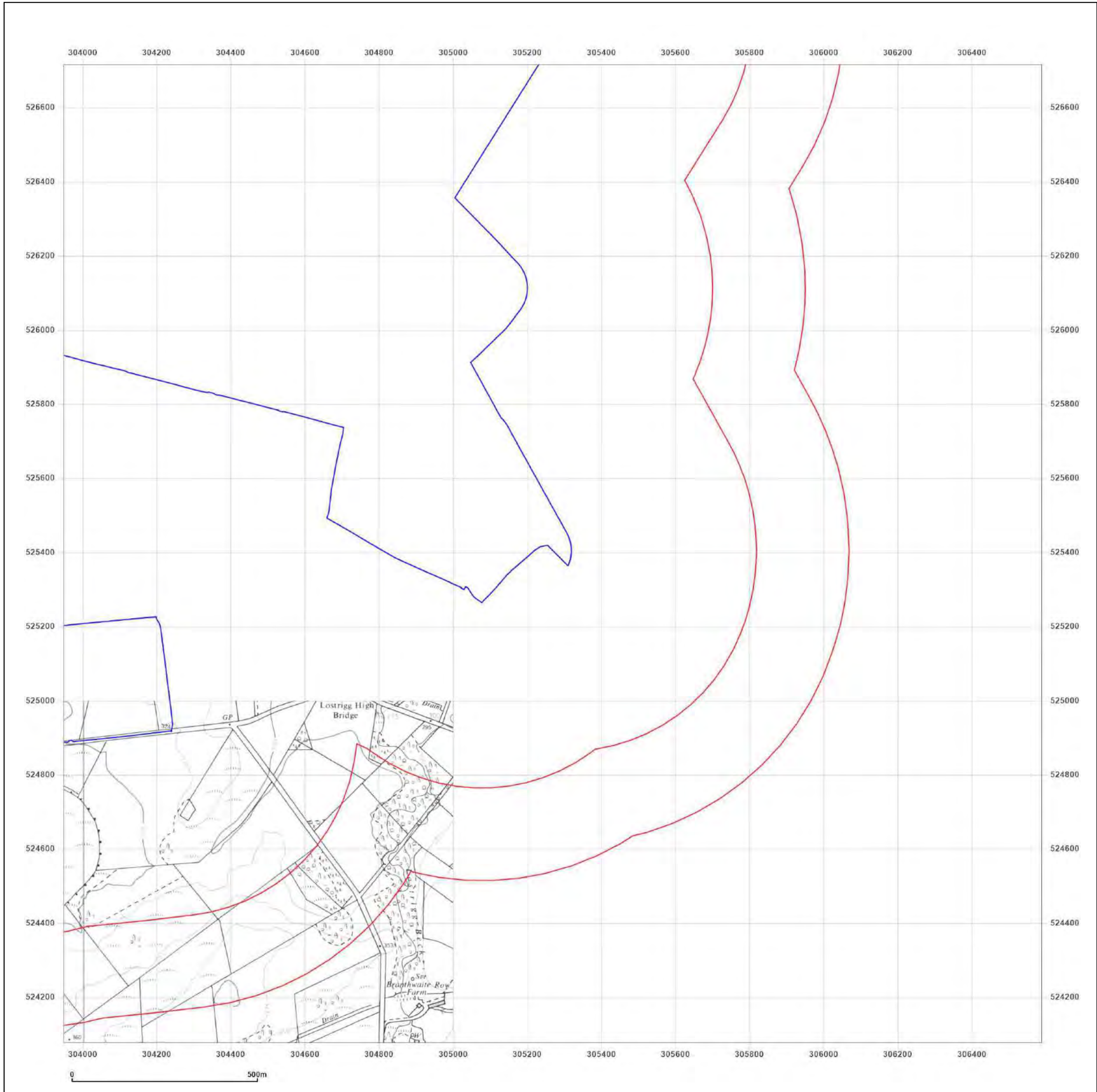
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Scale: 1:10,560

Printed at: 1:10,560

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



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CA12978 - Cumbria

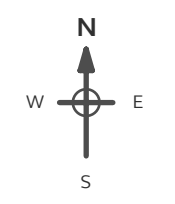
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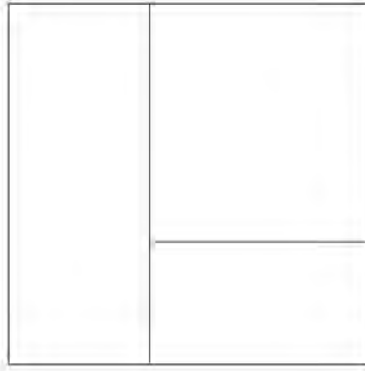
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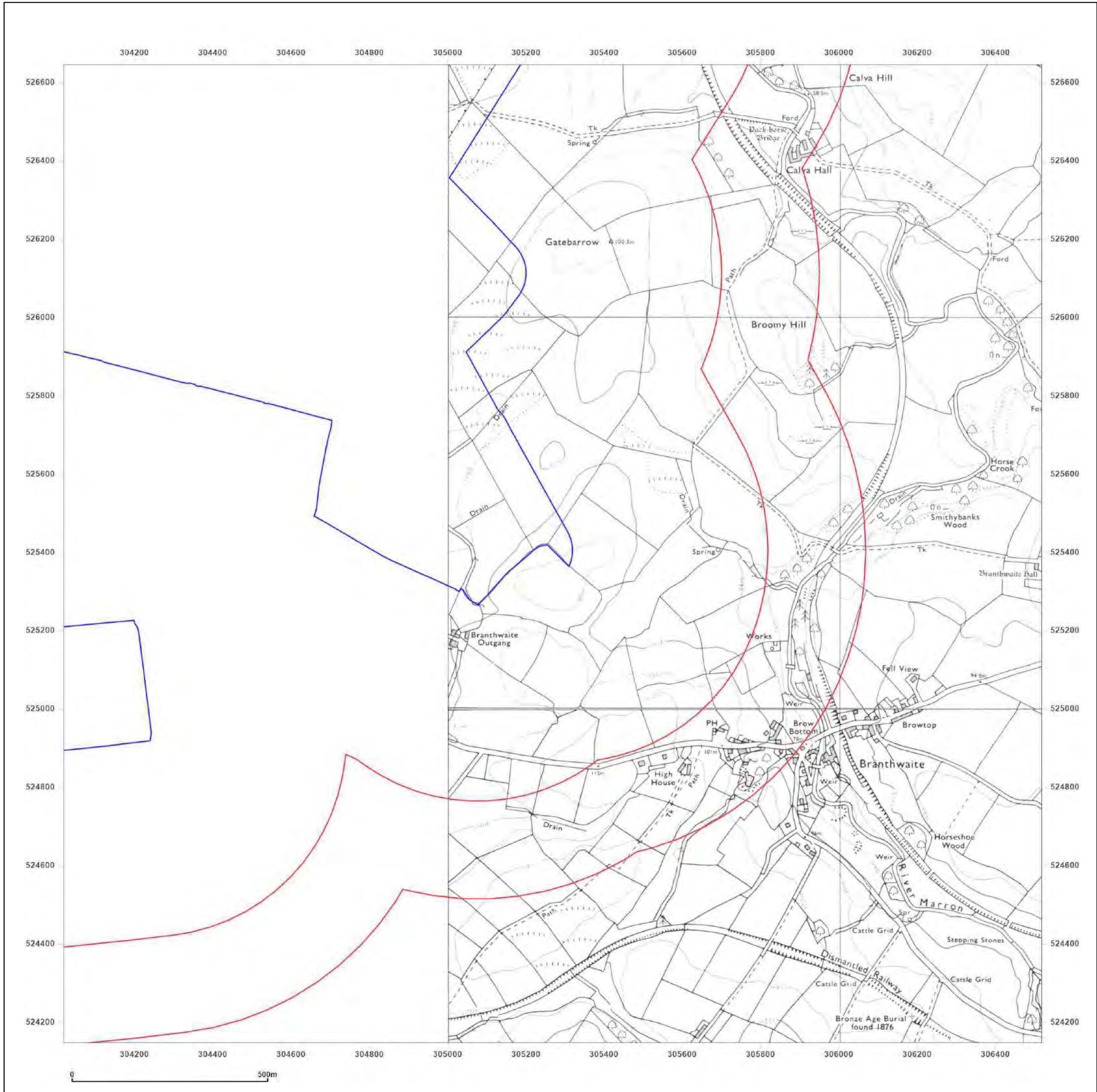
Printed at: 1:10,000



Surveyed 1969
 Revised 1970
 Edition N/A
 Copyright N/A
 Levelled N/A



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



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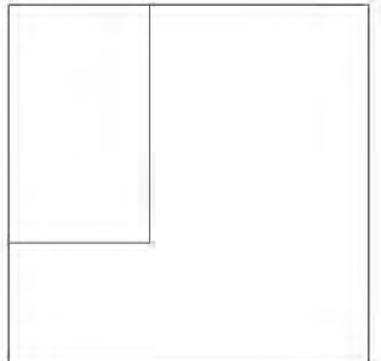
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Report Ref: GSIP-2024-14878-18376_SS_2_1
Grid Ref: 305268, 525396

Map Name: National Grid
Map date: 1981
Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1979
Revised 1981
Edition N/A
Copyright N/A
Levelled N/A

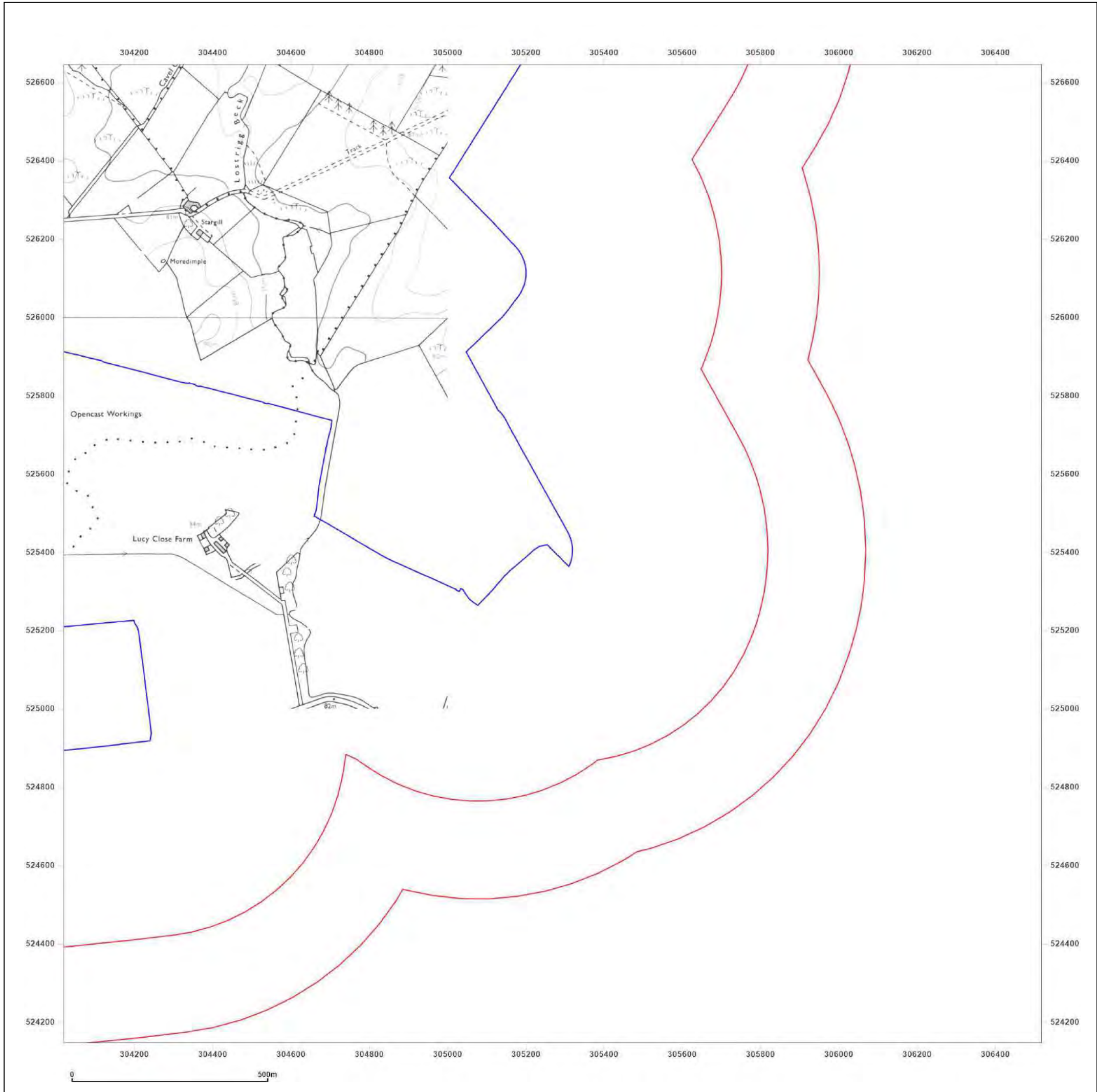


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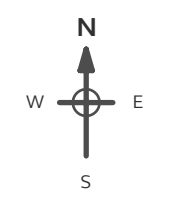
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Map Name: National Grid

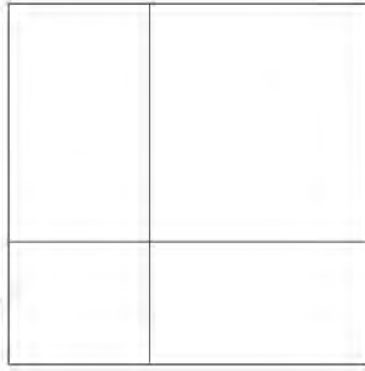
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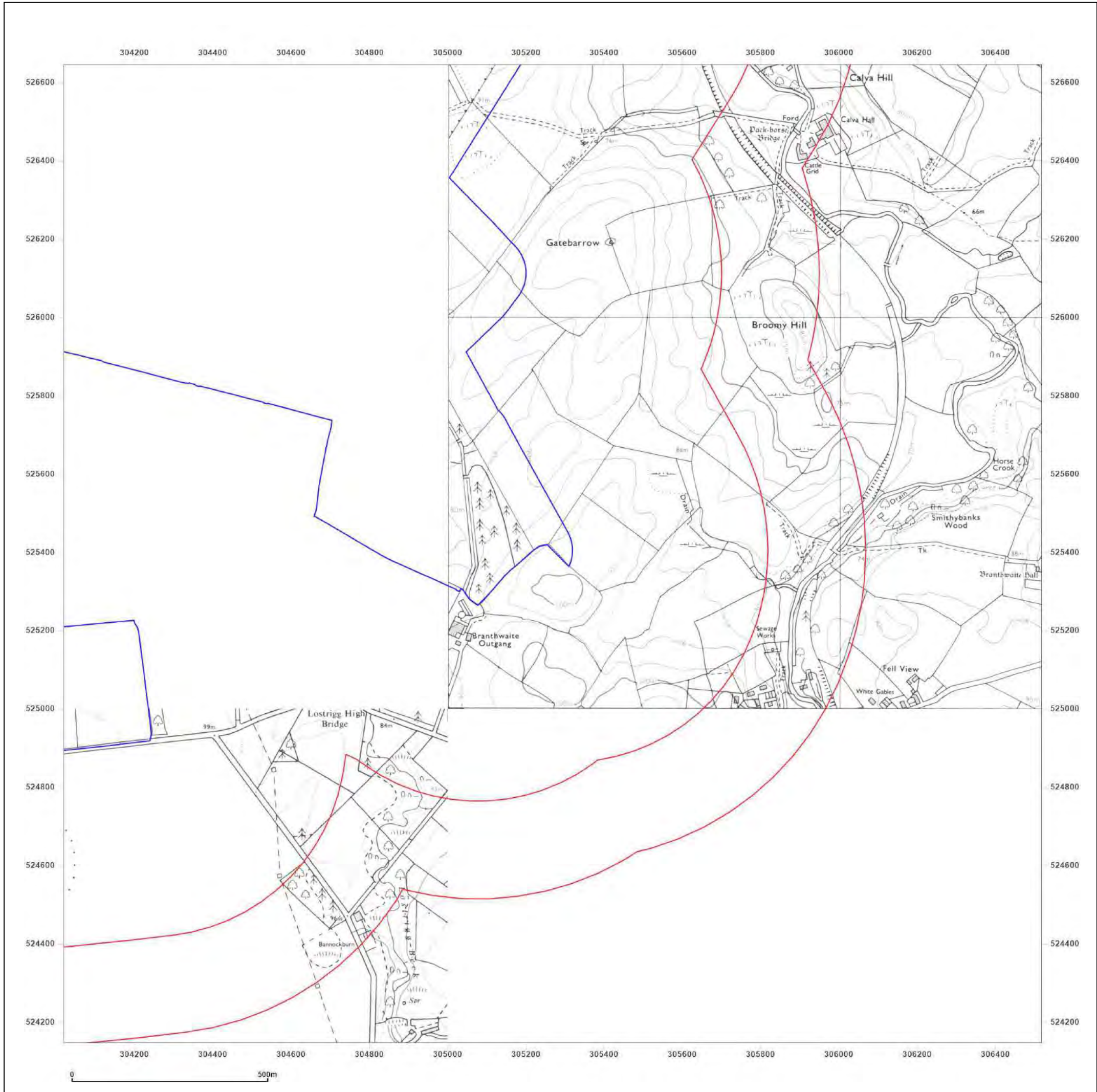
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Surveyed 1967
 Revised 1992
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1987
 Revised 1991
 Edition N/A
 Copyright N/A
 Levelled N/A



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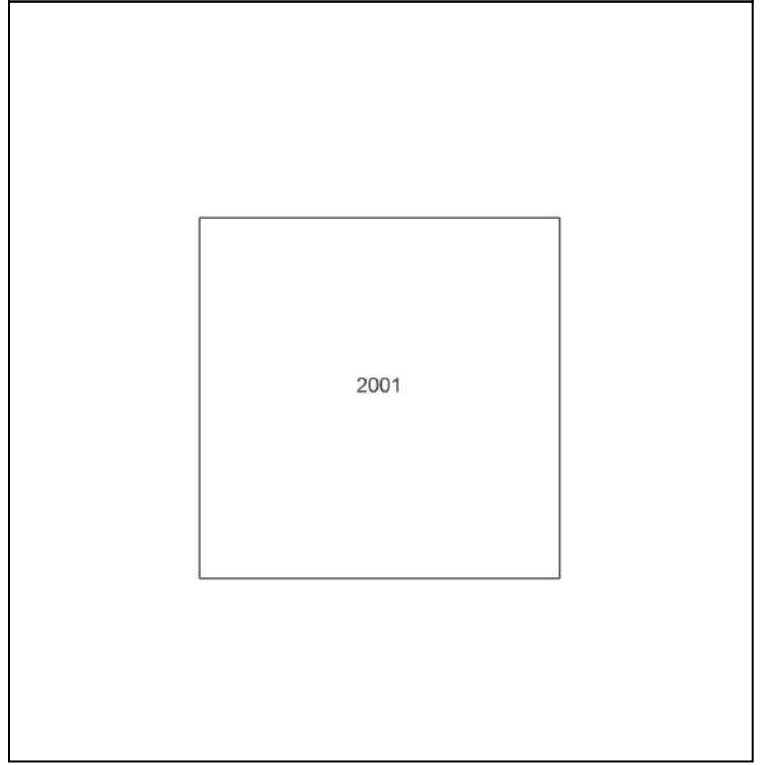
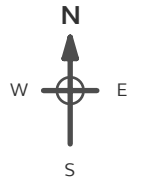
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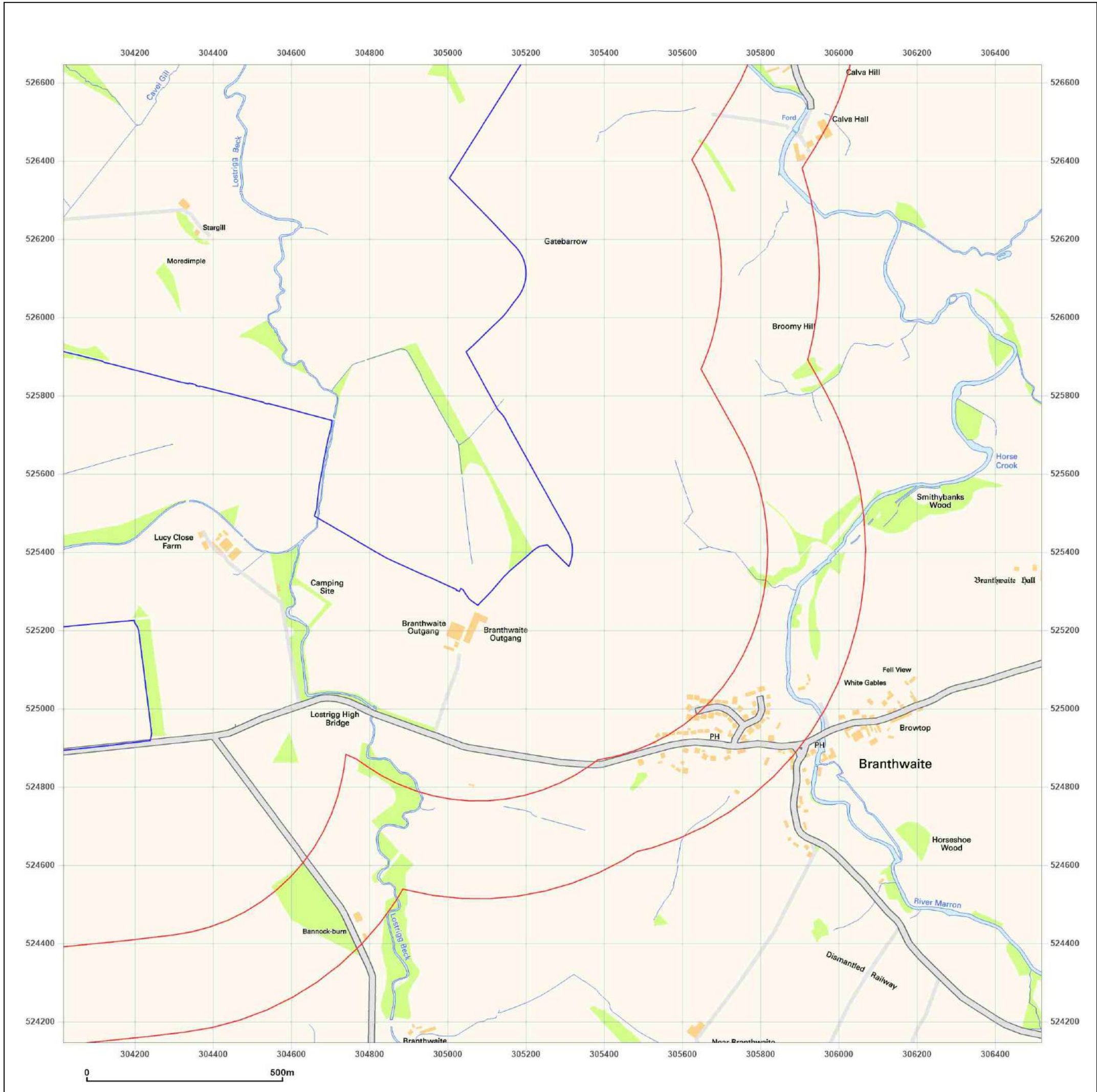


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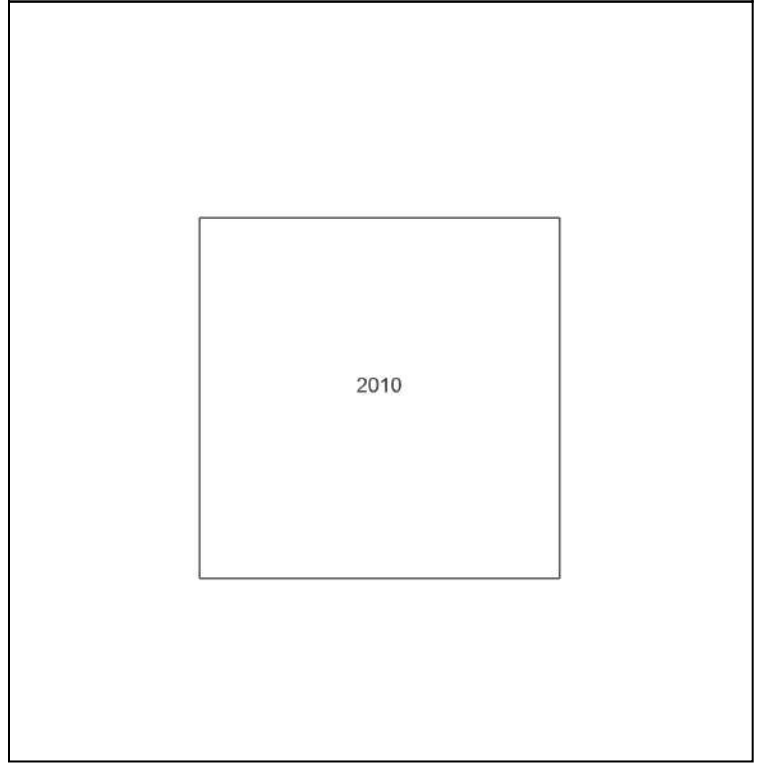
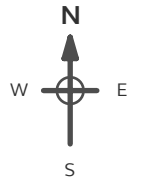
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Grid Ref: 305268, 525396

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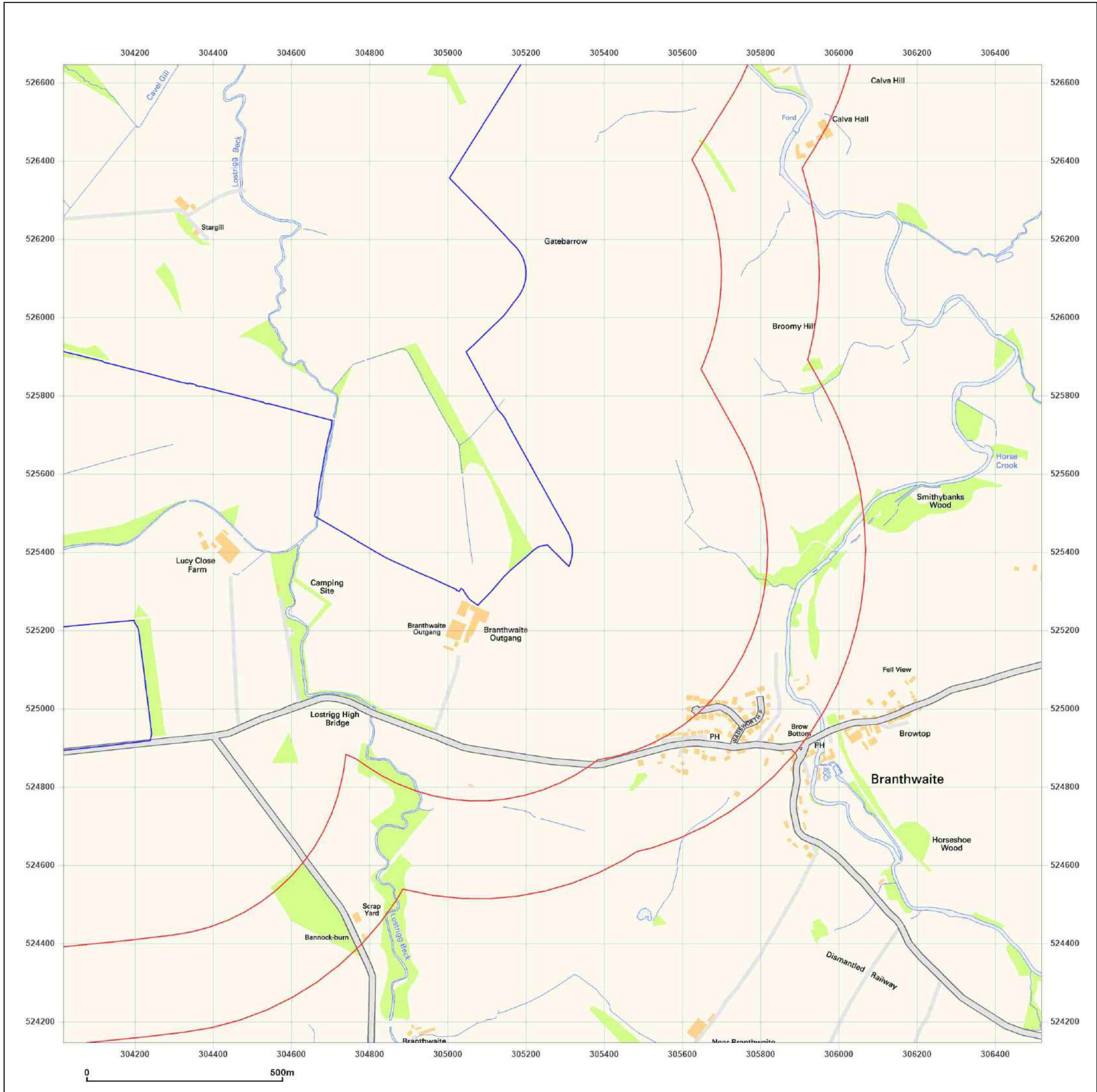


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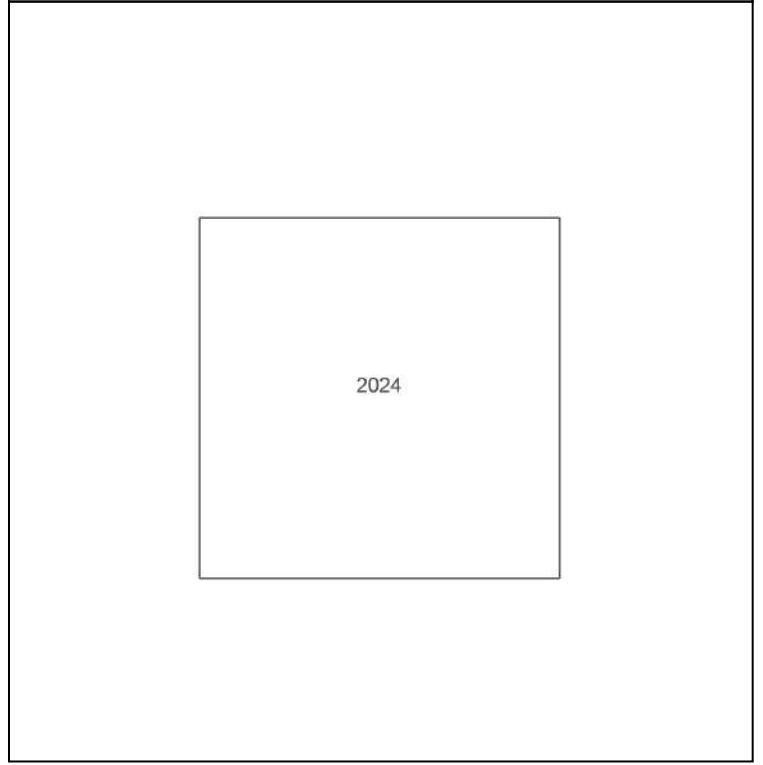
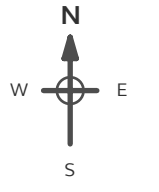
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Site Details:
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Report Ref: GSIP-2024-14878-18376_SS_2_1
Grid Ref: 305268, 525396

Map Name: National Grid
Map date: 2024
Scale: 1:10,000
Printed at: 1:10,000



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Appendix 5
Site Photographs

CA12978
LOSTRIGG SOLAR FARM

SITE WALKOVER PHOTOGRAPHS
29th – 30th April 2024



Photo 1

Viewing north west into Southern Panel Area from boundary with unnamed road.



CA12978
Lostrigg Solar Farm

Photo 2

Viewing south west from the Northern Panel Area.



Photo 3

Potential shaft located west, outside of site boundary.



CA12978
Lostrigg Solar Farm

Photo 4

Ground depression (potential shaft) located west, outside of site boundary.



Photo 5

Areas off softer ground located within Northern Panel Area.



CA12978
Lostrigg Solar Farm

Photo 6

Areas of saturated ground located within Northern Panel Area.



Photo 7

Area of standing water within Northern Panel Area.



Photo 8

Low brick and concrete structures present in the west of the site.



CA12978
Lostrigg Solar Farm



Photo 9

Steep elevation change marking Southern Panel Area boundary.



CA12978
Lostrigg Solar Farm

Photo 10

Ground works occurring west on land adjacent to Southern Panel Area.



Photo 9

Area of raised ground in area of recorded mine shaft.



Photo 10

Viewing west into Northern Panel Area.



CA12978
Lostrigg Solar Farm



Appendix 6
Coal Authority Report



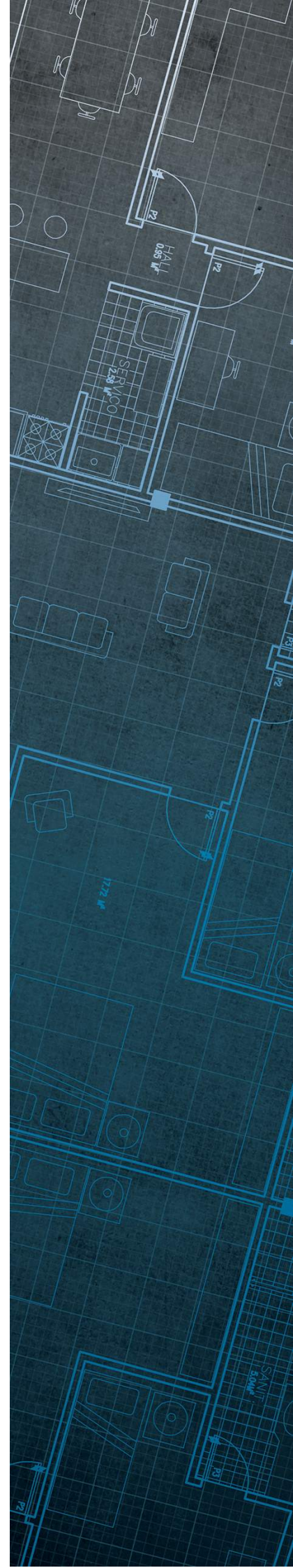
The Coal
Authority

Consultants Coal Mining Report

Lostrigg Solar Farm, Cumbria
Winscales
Cumbria
CA14 1YW

Date of enquiry: 26 April 2024
Date enquiry received: 26 April 2024
Issue date: 26 April 2024

Our reference: 51003420758001
Your reference: CA12978 (PO ST33271))



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

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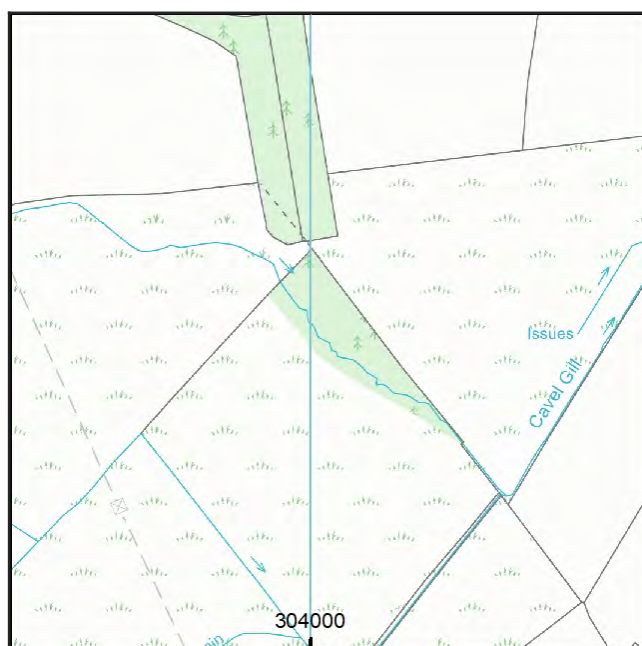
www.groundstability.com

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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
JUBILEE DRIFTS	white metal band	Coal	00TA	0	Beneath Property	9.5	North-East	89	1937
CLIFTON	MAIN	Coal	00S1	0	Beneath Property	7.0	North-East	167	1900
RANGE DRIFT	white metal band	Coal	A0QJ	3	Beneath Property	9.5	North-East	89	1937
unnamed	LICKBANK	Coal	00TQ	27	Beneath Property	5.5	North	66	1952
Uname(d)	TWO FOOT	Coal	00TN	30	Beneath Property	4.9	North	60	1950
unnamed6	TWO FOOT	Coal	00XX	41	Beneath Property	4.6	North-East	60	1922
Uname(d)	TWO FOOT	Coal	00XS	46	Beneath Property	5.7	North-East	62	1952
unnamed6	TWO FOOT	Coal	0002	47	Beneath Property	4.8	North-East	60	1922
unnamed6	TWO FOOT	Coal	006W	47	Beneath Property	4.5	North-East	60	1922
unnamed6	TWO FOOT	Coal	00XV	63	Beneath Property	4.5	North-East	60	1922
unnamed	MAIN	Coal	00TH	70	Beneath Property	7.6	North-East	205	1895
unnamed	LICKBANK	Coal	00TB	71	Beneath Property	2.8	North	64	1955
unnamed	LICKBANK	Coal	00TO	73	Beneath Property	5.9	North-West	56	1955
CLIFTON	LICKBANK	Coal	00XT	82	Beneath Property	5.6	North-East	58	1956
unnamed	LICKBANK	Coal	00TP	86	Beneath Property	5.7	North-West	62	1959
unnamed	TWO FOOT	Coal	00U0	86	Beneath Property	4.0	North	60	1958
unnamed	MAIN	Coal	00TI	92	Beneath Property	7.6	North-East	205	1895
unnamed	UPPER TEN QUARTERS	Coal	3GK6	94	Beneath Property	4.7	East	137	1918
Uname(d)	TWO FOOT	Coal	00TM	95	Beneath Property	6.1	North	60	1950
CLIFTON	CLEATOR MOOR SIX FOOT	Coal	00T9	104	Beneath Property	9.9	North-East	120	1921
LOWTHER	MAIN	Coal	00TG	109	Beneath Property	7.6	North-East	205	1913
Uname(d)	TWO FOOT	Coal	00TL	114	Beneath Property	4.9	North-East	60	1950

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	UNNAMED 8	Coal	0005	114	South	4.8	North-East	117	1919
unnamed	UNNAMED 8	Coal	00XY	123	Beneath Property	4.8	North-East	117	1921
CLIFTON	UPPER TEN QUARTERS	Coal	3EXL	124	Beneath Property	0.0	East	100	1914
unnamed	MAIN	Coal	00TJ	124	Beneath Property	9.1	North-East	205	1906
Uname(d)	TWO FOOT	Coal	00U1	133	Beneath Property	4.0	North-East	60	1950
Uname(d)	TWO FOOT	Coal	00TK	135	Beneath Property	6.6	North	60	1950
Uname(d)	TWO FOOT	Coal	00TW	136	Beneath Property	3.4	North-East	60	1950
CLIFTON	LICKBANK	Coal	A0M2	148	North-West	2.2	East	73	1940
unnamed	MAIN	Coal	00TE	156	North-West	7.5	North-East	200	1800
unnamed	TOP BANNOCK	Coal	00TU	172	North-West	11.3	North-East	38	1922
unnamed	TWO FOOT	Coal	00T5	192	Beneath Property	7.0	North-East	80	1828
Uname(d)	TWO FOOT	Coal	00TX	209	Beneath Property	7.0	North-East	60	1828
Uname(d)	TWO FOOT	Coal	00TY	218	Beneath Property	8.2	North-East	60	1934

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	302525-001	302789 525330	This shaft is located in an area that has been worked by opencast mining operations. There are no details of any further treatment but it is likely that the shaft has been partially or totally removed.	Coal	
Adit	303525-001	303055 525494		Coal	
Adit	303525-002	303038 525450		Coal	
Shaft	303525-003	303159 525375		Coal	
Shaft	303525-004	303242 525378		Coal	
Shaft	303525-005	303440 525354		Coal	
Shaft	303525-006	303069 525077	This shaft was partially removed by opencast mining operations. The shaft was capped at the base of the opencast operations by British Coal Opencast Executive in July 1986. The cap consists of 6m square x 0.45m thick with top and bottom 25mm bar reinforcing in both directions. The level of the cap is at 94.3m A.O.D.	Coal	
Adit	303525-007	303865 525251		Coal	
Shaft	304527-001	304971 527909		Coal	
Shaft	304527-002	304356 527651		Coal	
Shaft	304527-003	304085 527589	The shaft has been filled to an unknown specification prior to 1957.	Coal	
Shaft	304527-004	304206 527477		Coal	
Shaft	304527-005	304236 527465		Coal	
Shaft	304527-006	304263 527447		Coal	
Shaft	304527-007	304318 527430		Coal	
Shaft	304527-008	304282 527409		Coal	
Shaft	304527-009	304338 527421		Coal	
Shaft	304527-010	304359 527407		Coal	
Adit	304527-011	304270 527309		Coal	
Shaft	304527-012	304239 527274		Coal	
Adit	304527-013	304376 527296		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	304527-014	304440 527328		Coal	
Adit	304527-015	304559 527462		Coal	
Adit	304527-016	304420 527278		Coal	
Adit	304527-017	304471 527275		Coal	
Adit	304527-018	304437 527255		Coal	
Shaft	304527-019	304521 527260		Coal	
Shaft	304527-020	304471 527653		Coal	
Shaft	304527-021	304466 527508		Coal	
Shaft	304527-022	304332 527402		Coal	
Shaft	304528-004	304993 528269		Coal	
Shaft	304528-005	304963 528155	Shaft filled to an unknown specification prior to 1957.	Coal	
Shaft	304528-006	304965 528112		Coal	
Shaft	304528-007	304598 528092	Shaft filled to an unknown specification prior to 1957.	Coal	
Shaft	304528-008	304287 528006	Filled prior to 1957 to an unknown specification	Coal	
Shaft	305527-001	305065 527996		Coal	
Shaft	305527-002	305132 527956		Coal	
Shaft	305527-003	305224 527970		Coal	
Shaft	305527-004	305430 527988		Coal	
Adit	305527-005	305688 527914		Coal	
Shaft	305527-006	305405 527908		Coal	
Shaft	305527-007	305189 527893		Coal	
Shaft	305527-008	305314 527826		Coal	
Shaft	305527-009	305092 527777		Coal	
Shaft	305527-010	305149 527779		Coal	
Shaft	305527-011	305291 527758		Coal	
Shaft	305527-012	305319 527764		Coal	
Shaft	305527-013	305420 527769		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	305527-014	305448 527749		Coal	
Shaft	305527-015	305130 527722		Coal	
Shaft	305527-016	305102 527646		Coal	
Shaft	305527-017	305166 527641		Coal	
Shaft	305527-018	305137 527577		Coal	
Shaft	305527-019	305244 527584		Coal	
Shaft	305527-020	305201 527527		Coal	
Shaft	305527-021	305053 527482		Coal	
Shaft	305527-022	305072 527487		Coal	
Shaft	305527-023	305088 527488		Coal	
Shaft	305527-024	305097 527474		Coal	
Shaft	305527-025	305339 527875		Coal	
Shaft	305527-026	305420 527843		Coal	
Shaft	305527-027	305586 527819		Coal	
Shaft	305527-028	305584 527828		Coal	
Shaft	305527-029	305573 527827		Coal	
Shaft	305527-030	305566 527834		Coal	
Shaft	305527-031	305560 527833		Coal	
Shaft	305527-032	305553 527837		Coal	
Shaft	305527-033	305547 527834		Coal	
Shaft	305527-034	305552 527827		Coal	
Shaft	305527-035	305547 527821		Coal	
Shaft	305527-036	305546 527815		Coal	
Shaft	305527-037	305539 527814		Coal	
Shaft	305527-038	305545 527803		Coal	
Shaft	305527-039	305536 527803		Coal	
Shaft	305527-040	305532 527798		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	305527-041	305534 527792		Coal	
Shaft	305527-043	305530 527785		Coal	
Shaft	305527-044	305530 527775		Coal	
Shaft	305527-045	305528 527769		Coal	
Shaft	305527-046	305532 527766		Coal	
Shaft	305527-047	305528 527760		Coal	
Shaft	305527-048	305520 527757		Coal	
Shaft	305527-049	305519 527749		Coal	
Shaft	305527-050	305515 527748		Coal	
Shaft	305527-051	305513 527734		Coal	
Shaft	305527-052	305508 527735		Coal	
Shaft	305527-053	305508 527727		Coal	
Shaft	305527-054	305495 527725		Coal	
Shaft	305527-055	305495 527716		Coal	
Shaft	305527-056	305490 527719		Coal	
Shaft	305527-057	305481 527714		Coal	
Shaft	305527-058	305487 527706		Coal	
Shaft	305527-059	305475 527703		Coal	
Shaft	305527-060	305479 527700		Coal	
Shaft	305527-061	305464 527690		Coal	
Shaft	305527-062	305471 527685		Coal	
Shaft	305527-063	305463 527682		Coal	
Shaft	305527-064	305456 527681		Coal	
Shaft	305527-065	305460 527674		Coal	
Shaft	305527-066	305450 527668		Coal	
Shaft	305527-067	305461 527661		Coal	
Shaft	305527-068	305452 527657		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	305527-069	305462 527647		Coal	
Shaft	305527-070	305447 527644		Coal	
Shaft	305527-071	305453 527632		Coal	
Shaft	305527-072	305442 527619		Coal	
Shaft	305527-073	305450 527610		Coal	
Shaft	305527-074	305435 527601		Coal	
Shaft	305527-075	305445 527594		Coal	
Shaft	305527-076	305460 527591		Coal	
Shaft	305527-077	305431 527586		Coal	
Shaft	305527-078	305445 527579		Coal	
Shaft	305527-079	305434 527571		Coal	
Shaft	305527-080	305453 527569		Coal	
Shaft	305527-081	305438 527564		Coal	
Shaft	305527-082	305427 527562		Coal	
Shaft	305527-083	305449 527557		Coal	
Shaft	305527-084	305406 527549		Coal	
Shaft	305527-085	305438 527548		Coal	
Shaft	305527-086	305459 527547		Coal	
Shaft	305527-087	305427 527539		Coal	
Shaft	305527-088	305449 527535		Coal	
Shaft	305527-089	305471 527532		Coal	
Shaft	305527-090	305438 527529		Coal	
Shaft	305527-091	305460 527525		Coal	
Shaft	305527-092	305470 527518		Coal	
Shaft	305527-093	305387 527534		Coal	
Shaft	305527-094	305411 527528		Coal	
Shaft	305527-095	305398 527519		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	305527-096	305436 527516		Coal	
Shaft	305527-097	305362 527514		Coal	
Shaft	305527-098	305422 527514		Coal	
Shaft	305527-099	305382 527510		Coal	
Shaft	305527-100	305410 527509		Coal	
Shaft	305527-101	305450 527511		Coal	
Shaft	305527-102	305460 527508		Coal	
Shaft	305527-103	305432 527501		Coal	
Shaft	305527-104	305419 527499		Coal	
Shaft	305527-105	305441 527495		Coal	
Shaft	305527-106	305386 527492		Coal	
Shaft	305527-107	305408 527491		Coal	
Shaft	305527-108	305366 527485		Coal	
Shaft	305527-109	305399 527484		Coal	
Shaft	305527-110	305418 527486		Coal	
Shaft	305527-111	305429 527485		Coal	
Shaft	305527-112	305447 527484		Coal	
Shaft	305527-113	305347 527476		Coal	
Shaft	305527-114	305372 527474		Coal	
Shaft	305527-115	305390 527474		Coal	
Shaft	305527-116	305324 527470		Coal	
Shaft	305527-117	305408 527473		Coal	
Shaft	305527-118	305427 527472		Coal	
Shaft	305527-119	305436 527472		Coal	
Shaft	305527-120	305446 527472		Coal	
Shaft	305527-121	305357 527466		Coal	
Shaft	305527-122	305399 527467		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	305527-123	305415 527464		Coal	
Shaft	305527-124	305367 527459		Coal	
Shaft	305527-125	305293 527451		Coal	
Shaft	305527-126	305406 527452		Coal	
Shaft	305527-127	305423 527455		Coal	
Shaft	305527-128	305405 527438		Coal	
Shaft	305527-129	305391 527457		Coal	
Shaft	305527-130	305378 527453		Coal	
Shaft	305527-131	305393 527435		Coal	
Shaft	305527-132	305372 527436		Coal	
Shaft	305527-133	305334 527455		Coal	
Shaft	305527-134	305350 527453		Coal	
Shaft	305527-135	305310 527437		Coal	
Shaft	305527-136	305342 527438		Coal	
Shaft	305527-137	305358 527441		Coal	
Shaft	305527-138	305337 527426		Coal	
Shaft	305527-139	305354 527422		Coal	
Shaft	305527-140	305369 527420		Coal	
Shaft	305527-141	305309 527420		Coal	
Shaft	305527-142	305326 527417		Coal	
Shaft	305527-143	305301 527404		Coal	
Shaft	305527-144	305322 527404		Coal	
Shaft	305527-145	305341 527408		Coal	
Shaft	305527-146	305223 527439		Coal	
Shaft	305527-147	305254 527431		Coal	
Shaft	305527-148	305288 527424		Coal	
Shaft	305527-149	305236 527406		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	305527-150	305265 527408		Coal	
Shaft	305527-151	305286 527394		Coal	
Shaft	305527-152	305199 527383		Coal	
Shaft	305527-153	305190 527413		Coal	
Shaft	305527-154	305163 527413		Coal	
Shaft	305527-155	305173 527427		Coal	
Shaft	305527-156	305171 527439		Coal	
Shaft	305527-157	305148 527438		Coal	
Shaft	305527-158	305130 527424		Coal	
Shaft	305527-159	305478 527552		Coal	
Shaft	305528-025	305252 528300		Coal	
Shaft	305528-026	305400 528223		Coal	
Shaft	305528-027	305115 528162		Coal	
Shaft	305528-028	305293 528126		Coal	
Shaft	305528-029	305574 528228		Coal	
Shaft	305528-030	305586 528082		Coal	
Shaft	305528-031	305594 528023		Coal	
Shaft	305528-032	305668 528028		Coal	
Shaft	305528-033	305710 528075		Coal	
Shaft	305528-034	305750 528127		Coal	
Shaft	305528-039	305770 528213		Coal	
Shaft	305528-040	305738 528286		Coal	
Shaft	305528-048	305667 528208		Coal	

Abandoned mine plan catalogue numbers

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

NW1342	17100	NW1304
NC209	NC351	7610
16661	7837	11361

Our records show we have more plans than those shown above which could affect the enquiry boundary.

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
BLACK METAL	Coal	Yes	Within	N/A	69
BLACK METAL	Coal	Yes	Within	N/A	78
BLACK METAL	Coal	Yes	Within	N/A	122
BLACK METAL	Coal	Yes	Within	N/A	139
BLACK METAL	Coal	Yes	Within	N/A	165
BLACK METAL	Coal	Yes	Within	N/A	186
BLACK METAL	Coal	Yes	Within	N/A	325
BRICK (BANNOCK)	Coal	Yes	Within	N/A	22
BRICK (BANNOCK)	Coal	Yes	Within	N/A	122
BRICK (BANNOCK)	Coal	Yes	Within	N/A	173
BRICK (BANNOCK)	Coal	Yes	Within	N/A	299
DOVENBY BRASSY	Coal	Yes	Within	N/A	87
DOVENBY BRASSY	Coal	Yes	Within	N/A	89
DOVENBY BRASSY	Coal	Yes	Within	N/A	156
DOVENBY BRASSY	Coal	Yes	Within	N/A	173
ELLEN	Coal	Yes	Within	N/A	7
ELLEN	Coal	Yes	Within	N/A	144
ELLEN	Coal	Yes	Within	N/A	172
FIRECLAY	Fireclay	Yes	12.4	North-East	129
FIRECLAY	Fireclay	Yes	Within	N/A	132
FIRECLAY	Fireclay	Yes	Within	N/A	135
FIRECLAY	Fireclay	Yes	Within	N/A	169
GALE	Coal	Yes	Within	N/A	9
GALE	Coal	Yes	Within	N/A	87
GALE	Coal	Yes	Within	N/A	89
GALE	Coal	Yes	Within	N/A	163

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
GALE	Coal	Yes	Within	N/A	171
GANISTER	Coal	Yes	Within	N/A	143
ISABELLA	Coal	Yes	Within	N/A	151
ISABELLA	Coal	Yes	Within	N/A	188
low bottom	Coal	Yes	Within	N/A	58
LOWER HALF YARD	Coal	Yes	Within	N/A	43
LOWER HALF YARD	Coal	Yes	Within	N/A	45
MABEL	Coal	Yes	Within	N/A	36
MABEL	Coal	Yes	Within	N/A	72
MABEL	Coal	Yes	Within	N/A	174
MABEL	Coal	Yes	Within	N/A	347
MAIN	Coal	Yes	Within	N/A	27
MAIN	Coal	Yes	Within	N/A	58
Rattler	Coal	Yes	Within	N/A	74
RATTLER	Coal	Yes	Within	N/A	53
RATTLER	Coal	Yes	Within	N/A	114
RATTLER	Coal	Yes	Within	N/A	198
SENHOUSE HIGH	Coal	Yes	Within	N/A	5
SENHOUSE HIGH	Coal	Yes	Within	N/A	149
SENHOUSE HIGH	Coal	Yes	Within	N/A	162
SENHOUSE HIGH	Coal	Yes	Within	N/A	178
SIX QUARTERS	Coal	Yes	Within	N/A	16
SIX QUARTERS	Coal	Yes	Within	N/A	138
SIX QUARTERS	Coal	Yes	Within	N/A	270
SIX QUARTERS	Coal	Yes	Within	N/A	328
SLATEY	Coal	Yes	Within	N/A	110
TWO FOOT	Coal	Yes	26.1	West	208

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
UNNAMED25	Coal	Yes	Within	N/A	119
UNNAMED25	Coal	Yes	Within	N/A	119
UNNAMED 3	Coal	Yes	Within	N/A	187
UNNAMED 3	Coal	Yes	Within	N/A	194
UPPER TEN QUARTERS	Coal	Yes	Within	N/A	72
UPPER TEN QUARTERS	Coal	Yes	Within	N/A	140
UPPER TEN QUARTERS	Coal	Yes	41.0	North-West	203
WATERGATE	Coal	Yes	23.5	North-West	66
WATERGATE	Coal	Yes	Within	N/A	84
WATERGATE	Coal	Yes	Within	N/A	91
WATERGATE	Coal	Yes	Within	N/A	180
WHITE METAL	Coal	Yes	Within	N/A	100
white metal band	Coal	Yes	Within	N/A	116
white metal band	Coal	Yes	Within	N/A	122
white metal band	Coal	Yes	Within	N/A	199
white metal band	Coal	Yes	33.2	North-West	199
YARD	Coal	Yes	Within	N/A	44
YARD	Coal	Yes	Within	N/A	148
YARD	Coal	Yes	Within	N/A	258
YARD	Coal	Yes	Within	N/A	322

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property 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

Distance to site investigation (m)	Direction
Within	N/A

See Section 4 for further information.

Remediated sites

Distance to site remediation (m)	Direction
Within	N/A
Within	N/A
Within	N/A
Within	N/A

See Section 4 for further information.

Coal mining subsidence

A damage notice or claim for alleged subsidence damage was made in September 1999 for LAND AT FURNESS HOUSE, LITTLE CLIFTON, WORKINGTON, CUMBRIA. However, the claim was withdrawn.

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.

If further subsidence damage claims information is required, please visit www.groundstability.com.

See Section 4 for further information.

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 1952.

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.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

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.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

Remediated sites

The site is within an area of previous interest. It is close to where the Coal Authority has investigated and where necessary remediated mine entries and/or shallow coal mine workings following specific reported hazards.

The site requires further investigation and may influence your risk assessment. We recommend that you order the Coal Authority **Surface Hazards Incident Report**, which will include more information about the hazard.

Coal mining subsidence

The site is within an area of previous interest. It is close to where the Coal Authority or licensed mine operator has investigated and where necessary remediated issues relating to coal mining subsidence.

The site requires further investigation and may influence your risk assessment. We recommend that you order the appropriate **Coal Authority Subsidence Claims Report**, which will include more information about the hazard.

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. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

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.

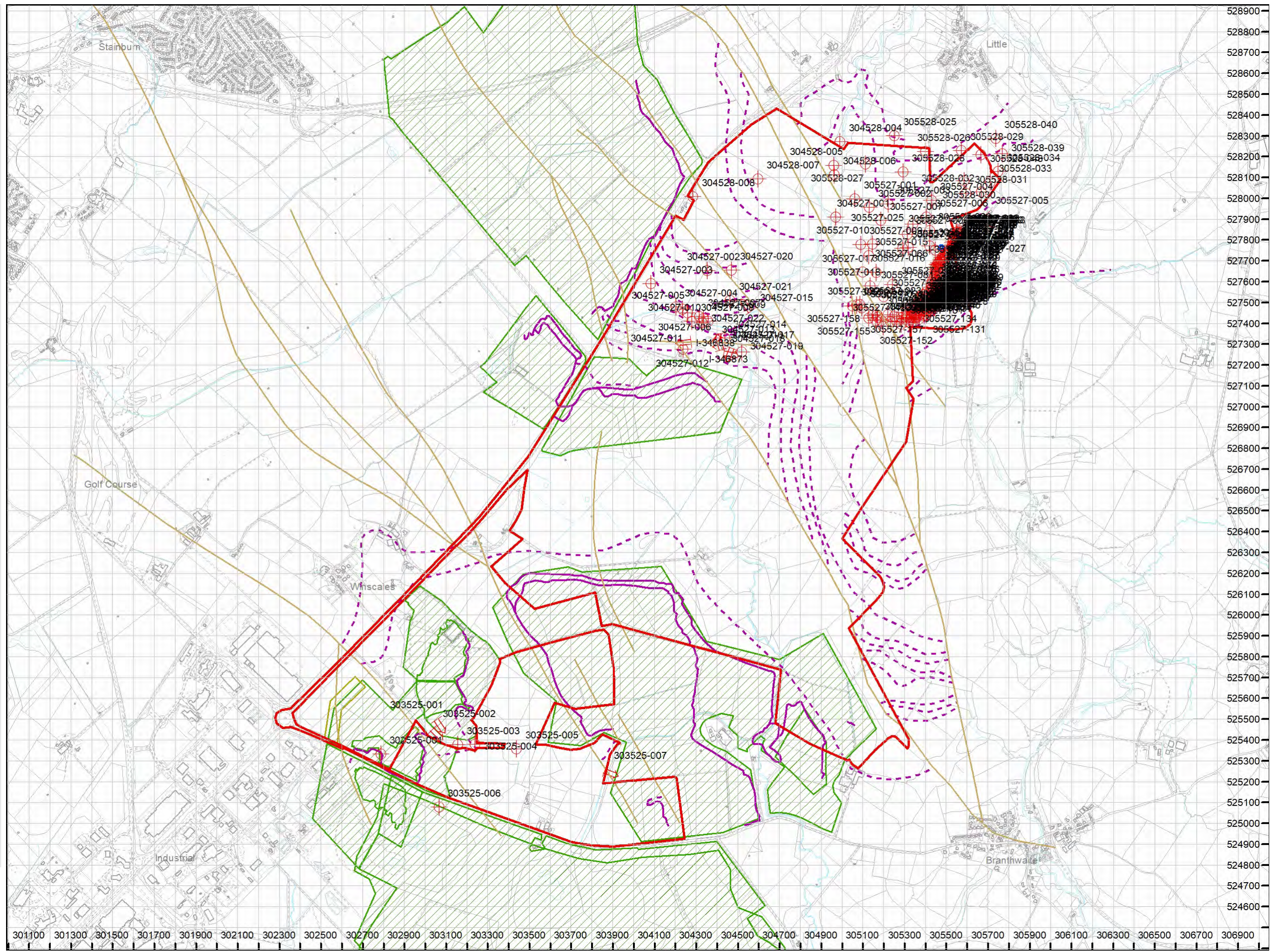
Payment to owners of former copyhold land

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 (Proven) 
- Outcrop (Conjectured) 
- Geological faults 
- Unlicensed opencast site 
- Site investigations 
- Remediated sites 
- Coal claim 




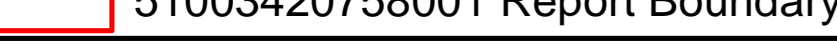


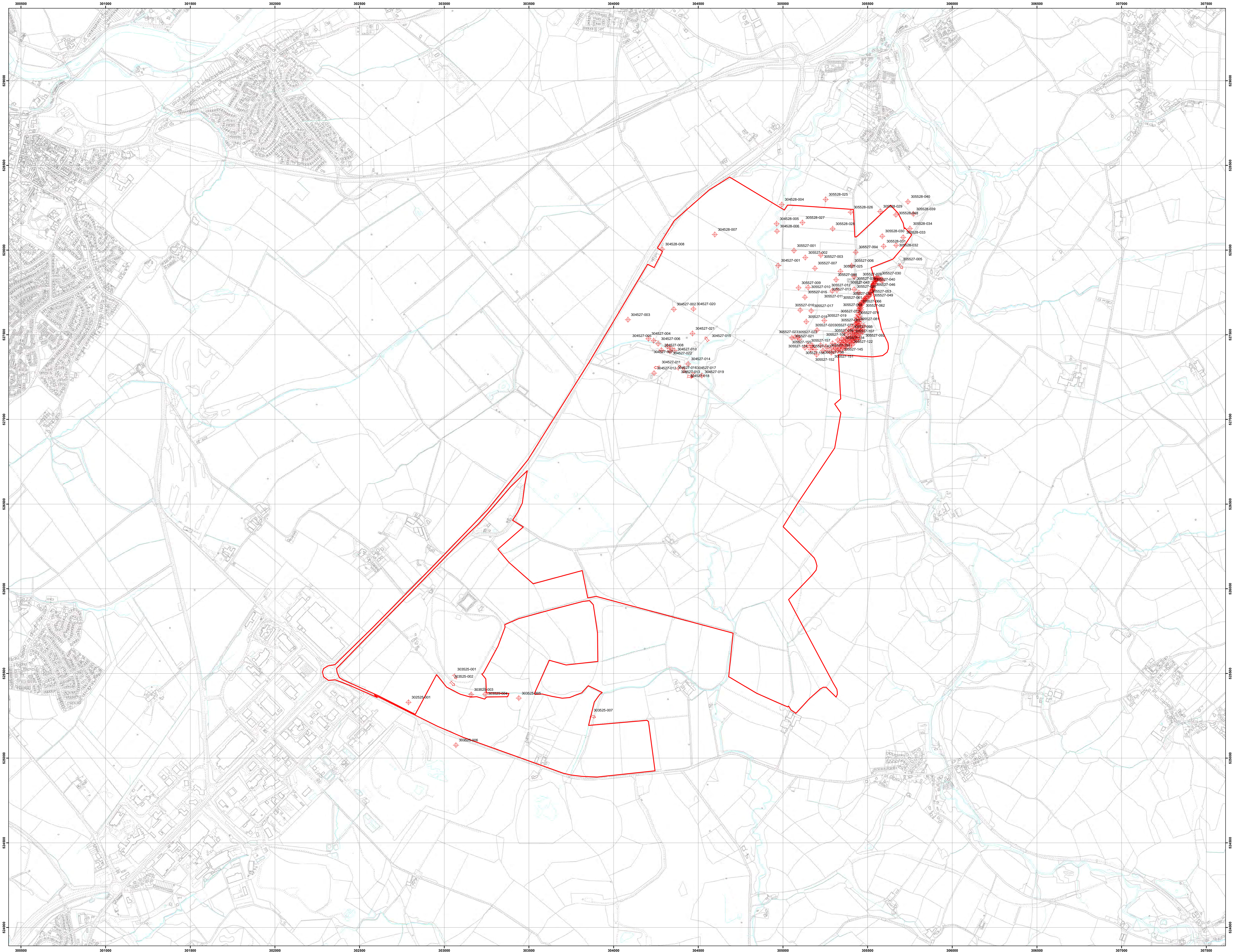
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The map highlights any specific surface or subsurface features within or near to the boundary of the site.

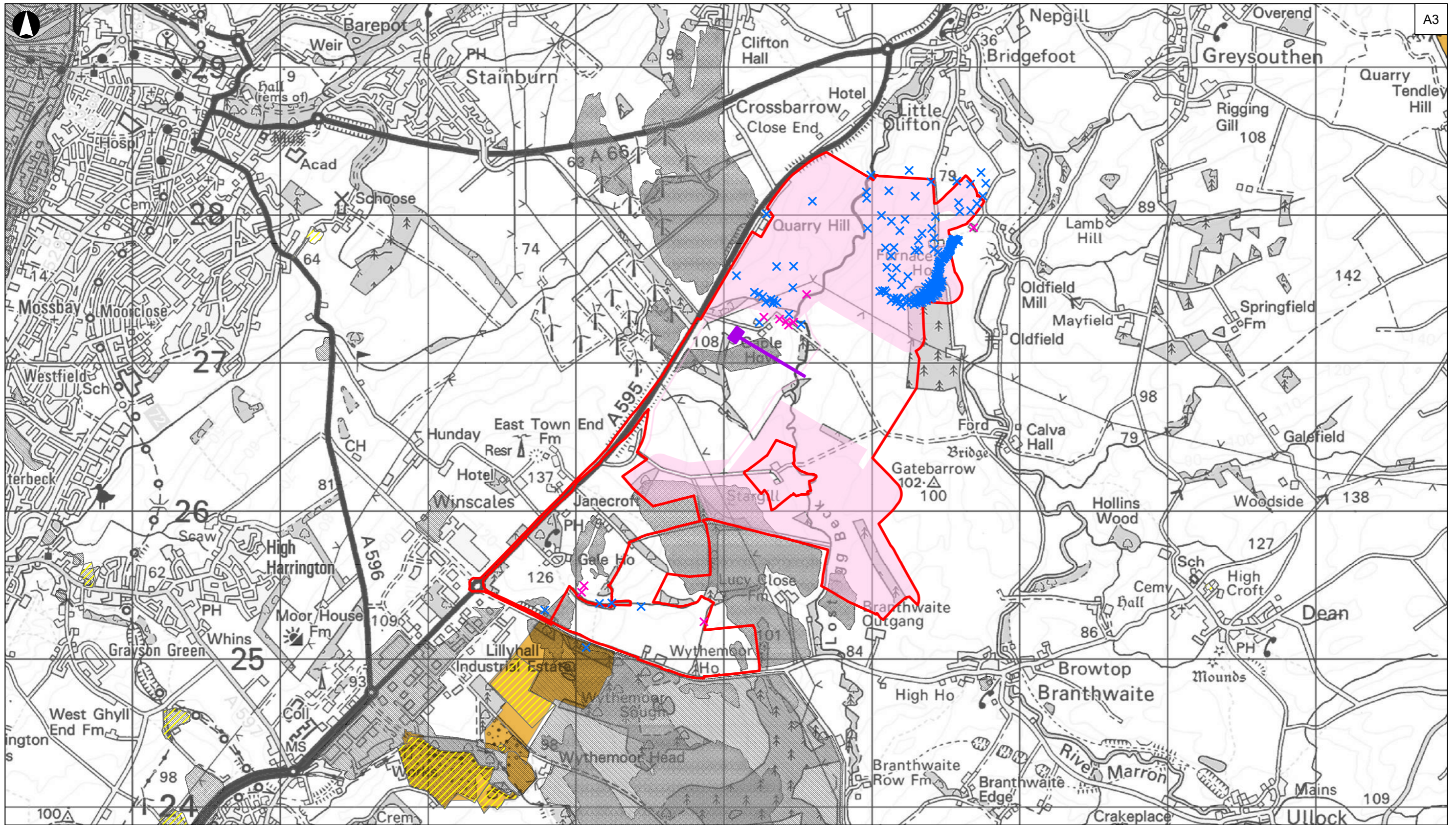
Legend

TYPE

-  Adit
-  Gutter Pit
-  Shaft
-  51003420758001 Report Boundary

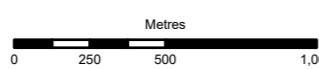


DRAWINGS



Legend

- draft Order Limits
- Lease Areas
- Historic Landfill Site Boundaries
- Authorised Landfill Site Boundaries
- Historical Rifle Range
- Infilled Ground - Artificial Deposit
- x Adit
- x Shaft



Coordinate System: British National Grid

Service or layer credits:
 Contains British Geological Survey materials © UKRI (2024)
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 Consultants Coal Mining Report, reference 51003420758001
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P01	29/05/24	CP	AO	BD	DB
Rev	Date	By	Chkd	Appd	Authd

Client

RWE

Project Name
Lostrigg Solar

Drawing Title
Figure 11.1 Constraints Plan

Scale at A3
1:25,000

Role
Scoping Report

Suitability
WiP

Project Number 300833-00	Rev P01
Drawing Number LSF-SR11-00001	

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Lostrigg Solar EIA Scoping Report - Appendices

Appendix 13.1

June 2024

JBM Solar

Workington Solar Farm

Landscape and visual appraisal - 2023

Reference: Final

Rev P01 | 24 May 2023



This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 295218-00

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Contents

1.	Introduction	1
1.1	Overview	1
2.	Study Area and Initial Design Parameters	2
2.1	Overview of Study Area	2
2.2	The Site	2
2.3	Key Infrastructure and Initial Design Parameters	3
3.	Legislation, Planning Policy and Guidance	4
3.1	Overview	4
3.2	Legislation	4
3.3	Review of National Policy Statements	4
3.4	National Planning Policy	13
3.5	Local Planning Policy	15
3.6	Planning Application History	19
4.	Methodology	20
4.1	Proposed Development	20
4.2	Assumptions/Limitations	20
5.	Baseline conditions	21
5.1	Landscape baseline and sensitivity	21
5.2	Visual baseline and sensitivity	24
6.	Appraisal	28
6.1	Landscape effects	28
6.2	Visual effects	28
6.3	RAG Assessment	31
6.4	Mitigation	36
7.	Summary and conclusions	38

Tables

Table 1	Sensitivity of landscape Character receptors	24
Table 2	Sensitivity of visual receptor	26
Table 3	Potential effect on landscape character receptors	28
Table 4	Potential effect on visual receptor	30
Table 5	RAG rating	31
Table 6	RAG assessment	32
Table 7	Establishing landscape value criteria	B-4
Table 8	Susceptibility of landscape receptors to change	B-5
Table 9	Sensitivity of landscape receptors criteria	B-6
Table 10	Magnitude of landscape impacts criteria	B-6
Table 11	Value attached to views criteria	B-9

Table 12 Susceptibility of visual receptors to change	B-9
Table 13 Sensitivity of visual receptors criteria	B-10
Table 14 Magnitude of visual impacts criteria	B-11
Table 15 Determining the significance of visual effects	B-11
Table 16 Descriptions for visual effects	B-12

Figures

Figure 1 Extract from Appendix A Figure 1 Landscape Designations with assessed Site Boundary	3
Figure 2 Allerdale Local Plan (Part 2) Policies Maps	18

Drawings

No table of figures entries found.

Pictures

No table of figures entries found.

Photographs

No table of figures entries found.

Attachments

No table of figures entries found.

Appendices

Appendix A	A-1
Figures	A-1
Appendix B	B-1
Methodology	B-1
B.1 Methodology	B-2

1. Introduction

1.1 Overview

JBM Solar is considering options to site a 120MW solar farm on land to the east of Workington in Cumbria (hereafter the Proposed Development). Solar farm development above 50MW falls within the Nationally Significant Infrastructure Project (NSIP) regime and would require a Development Consent Order (DCO) on approval of the relevant Secretary of State.

This report sets out an initial Landscape and Visual Appraisal (LVA) to assist JBM with identifying risks and areas of higher and lower susceptibility to the proposed changes. This includes a brief review of relevant legislation and planning policy, including the National Policy Statements (NPS) against which the DCO application would be assessed. It has been prepared by a team of landscape architects at Arup based on a detailed desk study and fieldwork carried out on 21 April 2023. Figures which support the LVA are presented in **Appendix A**.

2. Study Area and Initial Design Parameters

2.1 Overview of Study Area

An initial area of search extended 10km from the Site. Zones of Theoretical Visibility (ZTV) were used to appraise the potential visibility of the Proposed Development. Other information sources referenced during the refinement of the study area included 1:25,000 scale Ordnance Survey mapping, 3D topographical data and aerial photography.

Fieldwork was subsequently undertaken to verify the findings of the desk study. Extensive review of the study area was then undertaken to identify landscape and visual receptors that have potential to be affected by the Proposed Development. This analysis determined the study area, defined as the extent in which the Proposed Development may result in important landscape or visual effects.

A refined study area of 3km has been identified which includes all land within the Site and the area within which the Proposed Development may give rise to important landscape and visual effects. This study area is shown in **Figures 1 and 2** within **Appendix A**. A wider study area of 8km has been included to demonstrate the potential visibility of the Proposed Development from the higher ground within the Lake District National Park (refer to **Figures 3 and 4**).

2.2 The Site

The total extent of land under consideration for the Proposed Development is approximately 566ha, as shown in Figure 1. Arup understands that approximately 153ha of land this would be required to deliver the scheme.

Within the wider context, the Site is located within the open countryside between the town of Workington, which lies approximately 2km to the west, and the Lake District National Park, approximately 4.3km to the east. Locally, it is contained by Winscales Road (A595) to the west, a local road between Lillyhall Business Park and the village of Branthwaite to the south and the valley of the River Marron between Branthwaite and Little Clifton. It comprises an undulating topography with Lostrigg Beck running through the centre of the Site creating a deep meandering valley to the south of Little Clifton. The land use within the Site is predominantly rough grazing including on areas of moorland with some arable farming in places. There are bands of woodland along watercourses, woodland blocks, woodland shelterbelts, and hedges along historic field boundaries.

Beyond the proximity to the Lake District National Park, a high-level constraints review has identified the following.

The Lake District National Park was designated as a World Heritage Site in 2017. There are also several designated heritage assets within or adjacent to the Site which consist of:

- Calva Hall Bridge (Scheduled Monument) on the eastern edge of the Site, which crosses the River Marron;
- Grade II Listed Wythemoor Sough and Adjoining Barn and Stable, approximately 150m to the south of the southernmost parcels; and
- Grade II Listed Plunderland Farmhouse and Adjoining Barn which exists approximately 200m to the north of the Site.

A second Scheduled Monument is identified within the identified area outside the Site to the north-east, known as the 'Little Clifton open heap coke producing bases and associated slag heap, 220m north of Oldfield Bridge'. Approximately 2.5km to the west is the Grade II Listed Registered Park and Garden at Workington Hall, and 5.5km to the west at the mouth of the River Derwent is the southern-most point of the 'Frontiers of the Roman Empire (Hadrian's Wall)' which is also a World Heritage Site.

In relation to ecological designations and habitats, the River Marron on the eastern boundary of the Site is defined as a Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) and therefore the majority of the Site exists within the SSSI Impact Zones. There are also several Priority Habitats located

3. Legislation, Planning Policy and Guidance

3.1 Overview

The following section appraises relevant legislation and provides a high-level review of planning policy and guidance at a national and local level for the principle of solar development at the Site. A detailed planning policy review would need to be undertaken as part of a Planning Statement for any Development Consent Order (DCO) application and to inform the scheme development.

3.2 Legislation

3.2.1 European Landscape Convention

Paragraph 2.1 of GLVIA3 states that:

“The UK has signed and ratified the European Landscape Convention (ELC) since 2002, when the last edition of this guidance was published. The recognition that government has thus given to landscape matters raises the profile of this important area and emphasises the role that landscape can play as an integrating framework for many areas of policy. The ELC is designed to achieve improved approaches to the planning, management and protection of landscapes throughout Europe and to put people at the heart of this process.”

The ELC defines landscape as:

“...an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.”

3.2.2 Planning Act 2008

The Planning Act 2008 was introduced to implement proposals in the ‘Planning for a Sustainable Future’ White Paper to amend the planning regime, including introducing a single consent regime for major infrastructure projects, establishing an independent Infrastructure Planning Commission (now under the remit of the Planning Inspectorate) and making changes in the application of the town and country planning system.

An onshore generating station in England with a capacity of more than 50MW is considered to be a Nationally Significant Infrastructure Project (NSIP) under Section 14(1)(a) and Section 15(2) of the Planning Act 2008 (the Act). This would require the applicant to make an application for DCO before it can lawfully construct or operate any onshore generating station. The relevant SoS for the Proposed Development is the SoS for the Department for Energy Security and Net Zero (formally the Department for Business, Energy and Industrial Strategy).

3.2.3 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) set out the legislative requirements for undertaking an Environmental Impact Assessment (EIA).

The government is currently consulting on planning reforms to replace the EIA regulations from approximately 2024/25 under the Levelling Up and Regeneration Bill. This will require applicants to prepare Environment Outcome Reports (EOR), that will mandate developers to embed environmental considerations into the earliest stages of the project. There will be a strong focus on the assessment of alternatives and the impacts and benefits of projects will be assessed against agreed outcomes for specific environmental topics.

3.3 Review of National Policy Statements

3.3.1 National Policy Statements

National Policy Statements (NPS) are the principal policy documents for NSIPs. Under Section 104 of the Planning Act 2008 (‘the Act’), the SoS must decide a DCO application in accordance with any relevant NPSs.

Section 105 of the Act applies when there is no relevant NPS. It states that in determining applications, the SoS must have regard to the local impact report; matters prescribed; and, any other matters that the SoS regards as important and relevant.

There is currently no specific NPS relating to solar development and therefore Section 105 of the Act applies. However, there are three designated NPS that are considered relevant to solar development which are likely to be important and relevant to the decision-making of the SoS:

- **EN-1:** Overarching NPS for Energy
- **EN-3:** NPS for Renewable Energy Infrastructure
- **EN-5:** NPS for Electricity Networks Infrastructure

These NPS therefore form the focus of this initial planning risk appraisal. They include specific criteria and issues which should be covered by applicants' assessments of the effects of their scheme, and how the decision maker should consider these impacts. This would need to be confirmed and refined through preparation for any future DCO application.

The NPS for Energy (in particular, EN-1, EN-3 and EN-5), were established against legal obligations made as part of the Climate Change Act 2008, as amended by the 2050 Target Amendment Order 2019, for the UK to meet Net Zero Greenhouse Gas (GHG) emissions by 2050. The NPS set out a case for the need and urgency of new energy infrastructure, to support government policy on sustainability development.

The National Planning Policy Framework (NPPF, July 2021) provides national policy for decision-making on applications made under the Town and Country Planning Act 1990 (TCPA). Whilst it states clearly at Paragraph 5 that it does not contain specific policies for NSIPs, the SoS may regard policies of the NPPF to be important and relevant, which is particularly the case for valued landscapes. The NPPF is also considered at a high level within this initial planning risk appraisal.

Local planning policies and guidance may also be considered relevant and important by the SoS. The Proposed Development is located within the boundaries of Allerdale Borough Council.

Overarching NPS for Energy (EN-1) (2011) ¹

NPS-EN1 for Energy was adopted in 2011. It sets out the overall approach to national energy policy for projects to meet the Government's legally-binding targets for reducing greenhouse gas emissions by at least 80% by 2050, compared to 1990 levels. Whilst the scope of NPS EN-1 is limited considering renewable energy in the context of wind, biomass and waste, it remains relevant to decision-making for major energy infrastructure. Section 3 of the NPS EN-1 sets out the need for energy NSIPs in order to:

- *Provide energy security and carbon reduction objectives, particularly to ensure sufficient electricity generating capacity is available to meet maximum peak demand.*
- *Replace energy generating capacity that is being closed as a result of tightening environmental regulation and ageing power stations.*
- *Generate more electricity capacity to support an increase supply of renewable energy, including providing infrastructure to compensate for the intermittency of renewable generation such as electricity storage, interconnection and demand-side responses.*
- *Meet future increases in electricity demand, which is predicted to double by 2050.*
- *Meet urgent new electricity capacity, which requires energy NSIPs to be brought forward as soon as possible.*

The latter parts of NPS EN-1 set out general policies in accordance with which applications relating to energy infrastructure are to be decided. These commence by restating that the IPC, now PINS, should start with a 'presumption in favour of granting consent to applications for energy NSIPs'. That presumption

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

applies unless any more specific and relevant policies set out in the relevant NPSs clearly indicate that consent should be refused. In weighing adverse impacts against its benefits, its potential benefits include its contribution to meeting the need for energy infrastructure, job creation and longer-term benefits and the potential adverse impacts, including long-term or cumulative adverse impacts.

Section 4 sets out a series of ‘assessment principles’. Whilst it is not the purpose of the initial planning appraisal to review these in detail, several have been highlighted which are of greatest relevance to the Site:

- Whilst recognising that the applicant may not have extensive choice in the physical appearance of some energy infrastructure, applying “good design” to energy projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible (Paragraph 4.5.1). This should demonstrate the how the proposed design has evolved (Paragraph 4.5.4) and consider taking independent professional advice on the design aspects of a proposal (Paragraph 4.5.5).
- Applicants must consider the impacts of climate change when planning the location, design, build, operation and decommissioning of new energy infrastructure (Paragraph 4.8.5). This should take into account the potential impacts of climate change using the latest UK Climate Projections available at the time the ES is prepared to ensure they have identified appropriate mitigation or adaptation measures (Paragraph 4.8.6).
- The applicant should ensure that there is necessary infrastructure and capacity within the distribution network to accommodate the electricity generated (Paragraph 4.9.1). Where the applicant does not have a secured or agreed grid connection at time of application, it should be demonstrated that a grid connection is possible.

Other sections to be considered relate to: pollution control and other environmental regulatory regimes; safety; hazardous substances; health; common law and statutory nuisance; and security considerations.

Section 5 considers ‘generic impacts’ which may arise from the development of energy infrastructure, although it notes that the list of impacts (both generic and technology-specific) impacts are not exhaustive. Again, of greatest relevance to the Site are the biodiversity and landscape sections, with other sections requiring consideration as part of any future planning statement:

- Where the development is subject to EIA, it should be ensured that the ES clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity (Paragraph 5.3.3).
- The project should show how it has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests (Paragraph 5.3.4). The most important sites for biodiversity are those identified through international conventions and European Directives (Paragraph 5.3.9).
- Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design (Paragraph 5.3.15). Projects should also include appropriate mitigation measures for biodiversity (Paragraph 5.3.18).
- There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be (Paragraph 5.8.14). Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development (Paragraph 5.8.15).
- A landscape and visual assessment should be carried out and reported in the ES (Paragraphs 5.9.5 – 5.9.7). This should include reference to any landscape character assessment and associated studies, and account for any relevant local policies. The assessment should include the effects of construction, the completed development and its operation on landscape components and character, as well as the visibility and conspicuousness during construction and of the completed project on views and visual amenity, including light pollution.

- Landscape effects depend on the existing character of the local landscape, its current quality, how highly it is valued and its capacity to accommodate change. All of these factors need to be considered in judging the impact of a project on landscape (Paragraph 5.9.8). The NPS acknowledges that virtually all nationally significant energy infrastructure projects will have effects on the landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape.
- In relation to developments outside nationally designated areas which might affect them, there is a duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them (Paragraph 5.9.12). The aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent (Paragraph 5.9.13).
- The IPC (now PINS) should judge whether the visual effects on sensitive receptors outweigh the benefits of the project (Paragraphs 5.9.18 – 5.9.19). In some instances, significant benefits of landscape and visual mitigation may warrant a small reduction in function of the project (Paragraph 5.9.21). Indeed, the importance of materials, design and off-site landscape in impacting adverse landscape and visual effects is emphasised (Paragraphs 5.9.22 – 5.9.23).
- An energy infrastructure project will have direct effects on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects, there may be particular effects on open space including green infrastructure. Although the re-use of previously developed land for new development can make a major contribution to sustainable development by reducing the amount of countryside and undeveloped greenfield land that needs to be used, it may not be possible for many forms of energy infrastructure (Paragraph 5.10.1 - 5.10.3). Where green infrastructure is affected, the IPC, now PINS, should consider imposing requirements to ensure the connectivity of the green infrastructure network is maintained (Paragraph 5.10.20).
- Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) (Paragraph 5.10.8).
- Applicants should also safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place (Paragraph 5.10.9). This includes ensuring that appropriate mitigation measures have been put in place to safeguard mineral resources (Paragraph 5.10.22).

General policies related to flood risks within section 5.7; particularly for the areas subject to Flood Risk Zone 3 around Lostrigg Beck; historic environment within Section 5.8; and traffic and transport within Section 5.13; will also be of relevance.

National Policy Statement for Renewable Energy Infrastructure (NPS EN-3)²

NPS EN-3 was designated in 2011 and is a technology-specific NPS, focusing on renewable energy generation projects. It is therefore to be considered alongside NPS EN-1 as the primary policy basis for decisions on renewable energy infrastructure DCO applications. However, it specifies that it relates to energy from biomass/waste, offshore wind and onshore wind technology, not solar.

National Policy Statement for Electricity Network Infrastructure (NPS EN-5)³

The NPS EN-5 considers infrastructure for electricity networks, including associated infrastructure such as substations. It specifically covers above ground electricity lines whose nominal voltage is expected to be 132kV or above. It is therefore considered alongside NPS EN-1 as the primary policy basis for decisions on electricity network infrastructure.

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf

³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47858/1942-national-policy-statement-electricity-networks.pdf

Briefly, this NPS covers site selection and climate change adaptation. It also sets out technology-specific considerations on generic impacts considered in EN-1: Biodiversity and Geological Conservation; Landscape and Visual; and Noise and Vibration.

3.3.2 Review of National Policy Statements

The Energy White Paper published in 2020 committed to a review of the energy NPS to reflect the policies of the White Paper and support the delivery of infrastructure needed to transition to net zero by 2050.

Draft versions of the revised energy NPS were first published on 6 September 2021 as part of a public consultation that ran until 29 November 2021. The draft revisions to EN-3: NPS for Renewable Energy Infrastructure included specific policies relating to solar NSIPs.

In February 2023, the Department for Levelling Up, Housing and Communities (DLUHC) published the Nationally Significant Infrastructure Action Plan, which set out reforms to the planning process for NSIPs. Under Reform Area 1, it set out that updated NPS EN-1 to EN-5 will be designated by Quarter 2 of 2023.

On 30 March 2023, the Department for Energy Security and Net Zero published the ‘Powering Up Britain’ policy paper which sets out how energy security is to be enhanced and how the Government’s net zero commitments are to be delivered. It reaffirms the commitment to solar energy development, with a fivefold increase in solar targeted for 2035 to help decarbonise the power sector.

This policy paper also set out that the Government would seek large-scale solar deployment across the UK, looking for development mainly on brownfield, industrial and low / medium agricultural land. It furthers that Government will not be making changes to categories of agricultural land in ways that might constrain solar development. Alongside the Powering Up Britain paper, a revised suite of draft energy NPS were published and a consultation launched to seek feedback on the amendments. This consultation runs until 25 May 2023, and therefore these NPS will be revised following this consultation.

Key changes for the EN-1 and EN-3 are set out as follows.

Draft Overarching National Policy Statement for Energy (Draft EN-1) (March 2023)⁴

Unlike the previous EN-1, the emerging draft NPS for Energy explicitly sets out the role of wind and solar as predominant components of a secure, reliable, affordable net zero consistent system in 2050 (Paragraph 3.3.20). The need for solar infrastructure is considered to be urgent (Paragraph 3.3.58).

In relation to decision-making, it notes that the Secretary of State should assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the government has demonstrated there is already a need for this type of infrastructure (Paragraph 3.2.5). In relation to the weight to be given to that identified need of new energy infrastructure, the ‘*Secretary of State has determined that substantial weight should be given to this need when considering applications for development consent under the Planning Act 2008*’ (Paragraph 3.2.6).

It furthers that there are several different types of electricity infrastructure that are needed to deliver energy objectives, which includes an increase in low carbon generation and significant expansion of the networks that transport power to where it is needed (Paragraph 3.3.16).

Several changes are proposed to the ‘general assessment’, including:

- Where the use of land at a specific location is required to facilitate development by providing for mitigation, landscape enhancement and biodiversity net gain, and applicant may seek the compulsory acquisition of that land, or rights over that land (Paragraph 4.1.8).
- Additional detail is provided stating that only applications that cover HRA matters which are fully prepared and comprehensive can be accepted for examination, enabling them to be properly assessed by the Examining Authority (Paragraph 4.1.20).

⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147380/NPS_EN-1.pdf

- The NPS EN-1 notes the changes to the Environment Impact Assessment and Strategic Environmental Assessment frameworks emerging through the Levelling up and Regeneration Bill. As part of this, the term ‘environment’ is clarified to ensure that this is referring to both the ‘natural and historic environments’ (Paragraph 4.2.6). Explicit text is added requiring that the application must provide ‘information proportionate to the scale of the project, ensuring the information is sufficient to meet the requirements of the EIA Regulations’ (Paragraph 4.2.10).
- Current environmental net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand. Biodiversity net gain is an essential component of this (Paragraph 4.5.1 – 4.5.2), and in England, applicants for onshore elements of any development are encouraged to use the most current version of the Defra biodiversity metric to calculate their biodiversity baseline. Consideration should be had to emerging new Local Nature Recovery Strategies (LNRS) across England (Paragraph 4.5.12).
- In seeking to embed ‘good design’ for energy infrastructure within project development (Paragraph 4.6.5), a project board level design champion could be appointed, and a representative design panel could be used to maximise the value provided by the infrastructure. The emerging NPS now encourages applicants to take independent professional advice, including being directed to the Design Council design review service for NSIPs.
- Further detail is provided in relation to climate change adaptation (Section 4.9), which includes being satisfied that applicants for new energy infrastructure have taken into account the potential impacts of climate change using the latest UK Climate Projections and other expert guidance (Paragraph 4.9.13).

In relation to ‘generic impacts’, the following are identified as changes which are of particular relevance to the development of solar:

- Whilst the highest level of biodiversity protection continues to be afforded to sites identified through international conventions (Paragraph 5.4.4), the emerging NPS EN-1 now refers to a list of documents which are relevant to biodiversity in England (Paragraph 5.4.2). It references changes to the Habitats Regulation Assessment (HRA) process, which are currently subject to consultation, and requires the need for compensation to be considered as early as possible within the design process (Paragraph 5.4.23 and 5.4.27). The mitigation hierarchy is introduced (Paragraph 5.4.40), and measures to mitigate direct and indirect effects of development on ancient woodland, veteran trees or other irreplaceable habitats are strengthened (Paragraph 5.4.30). Where significant harm to biodiversity from a development cannot be avoided, then Secretary of State will give significant weight to any residual harm and consent may be refused (Paragraph 5.4.41).
- New text is introduced in relation to reducing emissions, particularly in construction (Paragraph 5.7.9).
- Paragraph 5.9.9 requires that consideration will be given to the possible impacts, including cumulative, on the wider historic environment, and requires the assessment to include reference to any historic landscape or seascape character assessment. New text is also provided on the loss of heritage assets (Paragraphs 5.9.16 – 5.9.19).
- In relation to landscape and visual impacts, the emerging NPS clarifies that landscape effects may arise not only from the sensitivity of the landscape but also the nature and magnitude of change proposed by the development (Paragraph 5.10.3). Beyond noting that virtually all NSIPs will have adverse effects, it notes that there may also be beneficial landscape character impacts arising from mitigation (Paragraph 5.10.4).
- In terms of landscape and visual assessment, the emerging NPS EN-1 notes that the applicant should consider landscape and visual matters in the early stages of siting and design, where site choices and design principles are being established. This assessment includes the effects on landscape components and character during construction and operation (Paragraph 5.10.14 – 5.10.23).
- Of great relevance to the Site are requirements to consider the impact of development outside the boundaries of nationally designated areas such as National Parks, the Broads and Areas of Outstanding Natural Beauty (Paragraphs 5.10.32 – 5.10.35). It states that:

- *The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for the Secretary of State to refuse consent. (Paragraph 5.10.32).*
 - *The scale of energy projects means that they will often be visible within many miles of the site of the proposed infrastructure. The Secretary of State should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project. (Paragraph 5.10.33).*
 - *In reaching a judgment, the Secretary of State should consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the Secretary of State considers reasonable (Paragraph 5.10.34).*
 - *The Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by appropriate mitigation (Paragraph 5.10.35).*
- In relation to land uses, additional text is inserted into the emerging NPS EN-1 in relation to development which affects soil resources (Paragraph 5.11.4). Now, applicants should seek to minimise impacts on social health and protect and improve soil quality, including developing and implementing a Soil Management Plan (Paragraph 5.11.13 - 5.11.14). Green and blue infrastructure is also considered to enable developments to provide positive environmental, social, health and economic benefits (Paragraph 5.11.7), and mitigation and compensation measures in relation to existing trees and woodlands are strengthened (Paragraph 5.11.27).
 - In relation to decision making for Best and Most Versatile (BMV) agricultural land, the emerging NPS EN-1 notes that SoS should ensure that applicants do not site their scheme on this land without justification. Where schemes are to be sited on BMV agricultural land, SoS should take into account the economic and other benefits of that land. Where development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality (Paragraph 5.11.34).
 - The applicant is strongly encouraged to engage with relevant local authorities during the early stages of project development, so that the applicant can gain a better understanding of local or regional issues and opportunities (Paragraph 5.13.3).

Draft National Policy Statement for Renewable Energy Infrastructure (Draft EN-3)⁵ (March 2023)

Since inception in 2011, the draft EN-3 (March 2023) has been extensively re-written to acknowledge the role of solar photovoltaic generation over 50MW, amongst other renewable energies including: biomass and waste; offshore wind; pumped hydro-storage; and tidal stream energy (Paragraph 2.6.1).

In relation to site selection, text is provided in relation to sites ‘with’ nationally recognised designations (such as National Parks and SSSIs), however it is not clear whether this relates to sites within or outside (Paragraph 3.3.6). As most renewable energy resources can only be developed where the resource exists and where economically feasible, and because there are no limits on the need established in Part 3 of draft EN-1, the Secretary of State should not use a sequential approach in the consideration of renewable energy projects (Paragraph 3.3.9).

The Government’s ambition to deliver a five-fold increase in solar deployment by 2035 (up to 70MW) is now embedded within draft NPS EN-3 (Paragraph 3.10.2), and Government notes that it will support solar through future rounds of the Contracts for Difference Scheme.

In relation to the applicant assessment, the following changes are made:

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147382/NPS_EN-3.pdf

- The draft NPS EN-3 identifies the factors that will influence site selection by an application, namely irradiance; proximity to dwellings; capacity; grid connection; agricultural land classification; and, accessibility. It is explained that applicants may choose a site and design its layout with variable panel aspects and arrays to follow the movement of the sun to maximise the solar resource (Paragraph 3.10.10).
- Solar projects should aim to use previously developed brownfield land for development, or agricultural land of classification 3b, 4 and 5 to avoid ‘best and most versatile’ land. Whilst siting on ALC of Grade 1, 2 or 3a is not prohibited, applicants are required to explain their siting choice within the context of a preference for brownfield or non-agricultural land. It is required that the Agricultural Land Classification is used to establish the ALC of a site and a Soil Resources Management Plan should be developed and implemented to minimise adverse impacts on soil health or potential contamination (Paragraphs 3.10.12 – 3.10.18).
- Applicants are required to consider the suitability of access routes to sites for construction and operation of the solar farm, particularly given the general siting of solar farms in rural areas (Paragraphs 3.10.19 – 3.10.23). In addition, later elements of this section explain how public rights of way should be considered (Paragraphs 3.10.25 – 3.10.30). An outline Public Rights of Way Management Plan should be provided with the application.
- Where an applicant sites a solar farm based on grid connection capacity, consideration to cumulative impacts of proximity to other energy generating infrastructure should be given (Paragraph 3.10.48).

In relation to ‘technical considerations’ to be taken into account by the SoS in determining applications, the emerging draft NPS EN-3 (Paragraphs 3.10.40 – 3.10.63) requires applicants include the following within their application:

- Measure capacity of the site in AC, based on the maximum combined capacity of the installed inverters.
- Consider the criteria for good design set out in EN-1 and favour south-facing arrangements of panels to maximise outputs.
- Consider the design life of solar panel efficiency over time when determining the period for which temporary consent is required, noting that 40-years is typical.
- Provide a method statement of underground cabling.
- Set out what would be decommissioned and removed at the end of the operational life of the generating station.
- Set out aspects of the proposal which may not have been settled in precise detail at the point of application, including the type and number of panels, layout and spacing, type of inverted and whether storage is involved.

In relation to ‘impacts’, the draft NPS EN-3 (Paragraphs 3.10.64 – 3.10.117) requires applicants to:

- Consider generic environmental, biodiversity, ecology and geological impacts set out within EN-1, and identify any ecological risk from developing the proposed site. Applicants should: consider earthworks associated with construction compounds, access roads and cable trenching; consider how security and lighting installations may impact on the local ecology; and consider how site boundaries are managed.
- Given the temporary nature of solar PV farms, applicants should: avoid the need to impact on existing drainage systems and watercourses; avoid culverting existing watercourses / drainage ditches; and through Flood Risk Assessments prepared to support an application, consider the impact of drainage, noting that this will not in general, be significant.
- Explore the potential to increase the biodiversity value of a site, especially if the land was previously intensively managed, which can result in significant benefits and enhancements beyond Biodiversity Net Gain. Applicants should consider enhancement, management, and monitoring of biodiversity in line with the ambition set out in the Environmental Improvement Plan, and any other relevant statutory measures and targets.

- Consider landscape and visual impacts carefully preapplication, carry out landscape and visual assessments and report these within the ES. This includes considering potential impacts on the statutory purposes of nationally designated landscapes, which should form a part of the pre application process. The emerging NPS EN-3 notes that through effective screening and appropriate land topography, the area of a zone of visual influence for the development could be appropriately minimised. Security measures should consider the need to minimise the landscape and visual impact, and maintenance plans should consider how to protect and retain the growth of vegetation on site boundaries. The impact of the proposed development on established trees should be informed by a tree survey and arboricultural / hedge assessment, as appropriate.
- Map receptors to qualitatively identify potential glint and glare issues and determine if a glint and glare assessment is necessary as part of the application. The extent of reflectivity analysis required to assess potential impacts will depend on the specific project site and design, which may be a particular consideration if ‘tracking panels’ are proposed.
- Expertly consider the impacts of solar PV on the historic environment. Where a site on which development is proposed includes, or has the potential to, include heritage assets with archaeological interest, the applicant should submit an appropriate desk-based assessment and, where necessary, a field evaluation. As the significance of a heritage asset derives not only from its physical presence but also from its setting, careful consideration should be given to the impact of large-scale solar farms which depending on their scale, design and prominence, may cause substantial harm to the significance of the asset.
- Applicants should assess the various potential routes to the site for delivery of materials and components where the source of the materials is known at the time of the application and select the route that is the most appropriate.

In relation to ‘mitigation’, the emerging NPS EN-3 sets out:

- Referring to the Defra Construction code of practice for the sustainable use of soil on construction sites, and minimising damage to soil that remains in place. Mitigation measures for agricultural soils include use of green cover, multispecies cover crops - especially during the winter- minimising compaction and adding soil organic matter (Paragraph 3.10.118).
- Maintain or extend existing habitats, and potentially create new important habitats. Develop an ecological monitoring programme to monitor impacts upon the flora of the site and upon any particular ecological receptors (Paragraph 3.10.120 – 121).
- Consider the potential to mitigate landscape and visual impacts through, for example, screening with native hedges, trees and woodlands and aim to minimise the landscape and visual impact of security measures (Paragraph 3.10.122 – 124).

Other mitigation includes considering the ability to microsite specific elements to risk damage to archaeology (Paragraph 3.10.128) and consider construction including traffic, transport noise and vibration (Paragraph 3.10.120 – 3.10.135).

Draft National Policy Statement for Electricity Network Infrastructure (draft NPS EN-5) (March 2023)⁶

The most recent version of draft NPS EN-5 was published in 2023 and whilst broadly similar to the 2011 publication, it provides some updates to assessment principles and some new sections (some of which relate primarily to overhead lines).

In summary, sections of relevance include:

- Whilst initiating and terminating points new electricity networks infrastructure may be constrained by system capacity and the location of generating infrastructure, the applicant has a duty to carefully

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015238/en-5-draft-for-consultation.pdf

consider the location of infrastructure within a site, taking into account principles of good design and impact mitigation (Paragraphs 2.2.1 – 2.2.11).

- Reference continues to be made for good design criteria set out in NPS EN-1, however it is noted that electricity networks infrastructure should be safe and secure in the first instance, and this may limit the applicant's ability to influence the aesthetic appearance (Paragraph 2.4.1 – 2.4.4).
- Consider opportunities afforded by electricity networks infrastructure to reconnect important habitats via green corridors and connect people to the environment via footpaths etc constructed in tandem with biodiversity enhancements (Paragraph 2.5.1).
- Review options available to an applicant in securing land access to install, maintain or remove new electricity networks infrastructure. This may be through ownership or having appropriate rights, through voluntary agreement or the seeking of compulsory acquisition (Paragraphs 2.6.1 – 2.6.6).

3.4 National Planning Policy

The NPPF sets out Government policies for decision-making on applications submitted under the TCPA. Paragraph 5 of the NPPF states that NSIPs are determined by the framework set out within the Planning Act 2008 and the relevant NPS.

The NPPF resolves that plans and decisions should apply a presumption in favour of sustainable development (**Paragraph 10** and **11**). For decision-taking, this means approving decisions which accord with an up-to-date development plan without delay; or, where there are no relevant development plan policies, or where these are otherwise out of date, granting permission unless policies within the NPPF that protect areas or assets of importance provide a clear reason for refusal or the adverse impacts of doing so would significantly and demonstrably outweigh the benefits. **Footnote 7** of Paragraph 11 identifies National Parks, habitat sites (including SAC) and SSSI, as protected areas or assets of particular importance.

There are several paragraphs which relate to the principle of solar development and constraints identified through the high-level review.

Paragraph 119 explains that decisions should be made in the interest of promoting the most effective use of land, while seeking to safeguard and improve the environment and ensure safe and healthy living conditions.

Paragraph 152 states that in order to tackle climate change, the planning system should support the transition to a low carbon future by encouraging radical reductions in greenhouse gas emissions and supporting renewable and low carbon energy alternatives.

Paragraph 158 states that local planning authorities faced with applications for renewable energy developments should not require applicants to demonstrate the need for the renewable energy and approving the application if its impacts are acceptable.

Paragraph 174 of the NPPF says that decisions should contribute and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions

such as air and water quality, taking into account relevant information such as river basin management plans; and

- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate. .

Paragraph 176 states that greater weight should be given to conserving and enhancing landscape and scenic beauty in National Parks. Development within their setting should be sensitively located and designed to minimise adverse impacts on these designated areas.

Paragraph 180 – 182 provides principles for determining planning applications which may impact habitat sites, noting that the presumption in favour of sustainable development does not apply where the project is likely to have significant effects on a habitats site.

In considering the impacts of proposed development on the significance of a designated heritage assets, **Paragraph 199** notes that great weight should be given to the assets conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance. Substantial harm should be exceptional or wholly exceptional depending on the significance of the asset (**Paragraph 200**). Where development amounts to less than substantial harm, this harm should be weighed against the public benefits of the proposal (**Paragraph 202**).

In support of the Levelling-up and Regeneration Bill which is currently passing through Committee Stage of the House of Lords, the Government published a consultation in December 2022 on a series of policy reforms to support legislative changes. Titled the Levelling-up and Regeneration Bill: Reforms to National Planning Policy (December 2022)⁷, proposed changes include:

- Introducing design codes to emphasise the importance of place-shaping and building beautiful, which are proposed to have statutory status forming part of a Local Plan or prepared as a supplementary plan.
- Introduction of a new Infrastructure Levy, and mandating planning for infrastructure through statutory Infrastructure Delivery Strategies.
- Providing greater certainty to local communities by: strengthening of the role of the development plan through proposed revisions to Section 38(6) of the Planning and Compulsory Act (2004); introducing National Development Management Policies; and introducing new Supplementary Plans which will have development plan status.
- Empowering communities through a new system of street votes and Neighbourhood Priorities Statements.
- A series of procedural changes to the preparation of Local Plans and decision-taking, such as a reflecting the changes within the Environment Act 2021 and emerging requirements to prepare Environmental Outcomes Reports.

Based on the consultation, it is expected that the earliest possible date when LPAs with a plan which is more than 5 years old must begin preparing a new-style plan under the new system will be November 2024. Ahead of a fuller review of the National Planning Policy Framework proposed to take place next year, the Government have published an interim version of the NPPF⁸ showing indicative changes for consultation.

Changes predominantly relate to: circumstances for the meeting of housing need; changes to the ‘tests of soundness’ by reducing the bar of evidence required to justify Local Plans; and strengthening situations for which amendments to the Green Belt should be considered. Minor changes are proposed to the extension of existing renewables sites, and increasing roll-out of energy-efficiency improvements on existing buildings.

⁷ <https://www.gov.uk/government/consultations/levelling-up-and-regeneration-bill-reforms-to-national-planning-policy/levelling-up-and-regeneration-bill-reforms-to-national-planning-policy#chapter-2---policy-objectives>

⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1126647/NPPF_July_2021_-_showing_proposed_changes.pdf

3.5 Local Planning Policy

In July 2021, the Government announced its decision to replace the two-tier authority system in Cumbria, made up of six district councils and the County Council, with two new unitary authorities. Vesting Day on 1st April 2023 saw the creation of Cumberland Council which covers the former areas of Allerdale, Carlisle and Copeland; the areas of Eden, South Lakeland and Barrow are covered by the newly formed Westmorland and Furness Council. Both new Councils cover the areas which lie outside the Lake District and Yorkshire Dales National Park Authorities.

Until the new Development Plan for Cumberland is prepared and subsequently adopted, the planning policy documents prepared by the former authorities will combine to form the Consolidated Planning Policy Framework for Cumberland. The development plan for Allerdale therefore consists of the Allerdale Local Plan (Part 1) Strategic and Development Management Policies (2014), Allerdale Local Plan (Part 2) (2020) and Cumbria Minerals and Waste Local Plan 2015-2030 (CMWLP). There are several Supplementary Planning Documents (SPDs) which would form material considerations.

Allerdale Local Plan (Part 1) Strategic and Development Management Policies

The Allerdale Local Plan Part 1 was adopted in 2014 and establishes strategic and development policies for the former Allerdale area.

The site falls outside the physical limits of named settlements but is adjacent to Lillyhall (a 'Key employment site'). It spans area-based policies for Workington in the west, and Cockermouth in the east.

In relation to the principle of solar development, **Policy S19** is of greatest relevance, alongside a series of other strategic policies that relate to the location of the Site and DCO applications.

Policy S19 Renewable Energy and Low Carbon Technologies

The Council will seek to promote and encourage the development of renewable and low carbon energy resources given the significant wider environmental, community and economic benefits. Proposals where impacts (either in isolation or cumulatively) are, or can be made acceptable will be permitted.

The Council will take a positive view where:

a) Proposals (either in isolation or cumulatively):

- i) Do not have an unacceptably adverse impact on the amenity of local residents (such as air quality/emissions, noise, odour, water pollution, shadow flicker);
- ii) Do not have significant adverse impact on the location, in relation to visual impact and impact on the character and sensitivity of the surrounding landscape;
- iii) Do not have an adverse effect on any European/International protected nature conservation site (including SACs, SPAs and Ramsar sites, candidate SACs, potential SPAs and proposed Ramsar sites) including its qualifying habitats and species, either alone or in-combination with other plans or projects.
- iv) Do not have a significant adverse effect on any National nature conservation site (Site of Special Scientific Interest; National Nature Reserve), except where the benefits of the development clearly outweigh both the impact on the site and any broader impacts on the wider network of National sites.
- v) Do not result in loss or harm to a Local nature conservation site, including habitats or species supported by Local Sites, unless it can be demonstrated that there is a need for the development in that location and that the benefit of development outweighs the harm or loss.
- iv) Do not have unacceptably adverse impact on heritage assets and their settings;

b) In the case of wind turbines, it can be demonstrated that the development would not result in a significant adverse effect (either in isolation or cumulatively) on protected bird species, including designated sites and migration routes;

- c) Appropriate operational requirements are addressed (including accessibility and suitability of road network, ability to connect to the grid, proximity of any relevant feedstock);
- d) Appropriate measures are included for the removal of structures and the restoration of sites, should sites become non-operational;
- e) Potential benefits to the local economy and the local community, including agriculture and other land based industries are considered.

Within Hadrian's Wall World Heritage Site and its buffer zone, and the Solway Coast Area of Outstanding Natural Beauty only small scale renewable energy schemes, which preserve the special qualities of these designations and accord with the aims and objectives of their Management Plans will be acceptable.

Renewable energy proposals are expected to provide supporting evidence including landscape, visual and environmental assessments and to demonstrate that any negative impacts have been made acceptable. Where mitigation is required to make impacts acceptable these will, where necessary be secured through Planning Obligations. Developers will be expected to work with local communities from an early stage and deliver benefits to the local area where the proposal is located.

Supporting text continues that the policy seeks to address each proposal on its merits and ensure the maximum level of resource is harnessed whilst ensuring that any impacts are, or can be made acceptable. It notes that, in some cases, the large scale nature of some renewable technologies can give rise to unacceptable impacts. Great emphasis is placed on the consideration of cumulative adverse impacts arising from a growing number of renewable developments across the Plan area.

Policy S2 Sustainable Development Principles states that the Local Plan will promote sustainable development as a core principle. This means encouraging the development of renewable and low carbon energy resources in appropriate locations given the potential wider environmental, community and economic benefits; and reducing Allerdale's carbon footprint and supporting a low carbon future. The policy furthers that the council will:

- Minimise the impact on natural resources by avoiding pollution, promoting waste reduction / recycling and by promoting renewable or low carbon energy and avoid sterilisation of mineral resources.
- Encourage development to incorporate the principles of sustainable construction to improve energy efficiency, provide renewable energy, reduce water consumption and waste and use sustainably sourced materials.
- Ensure the efficient use of land and infrastructure, encouraging the reuse of previously developed land that is not of high environmental value.
- Ensure that landscape character and local distinctiveness is protected, conserved and wherever possible enhanced.
- Conserve and enhance the diversity and distinctiveness of towns, villages and landscapes including the character, appearance and significance of Heritage Assets.
- Protect, maintain, enhance and re-connect the range and vitality of habitats and species to allow species to adapt to climate change and create a viable ecological network within and out with the Plan Area.
- Support local food production and farming to reduce the area's food miles by avoiding significant development on the best and most versatile agricultural land where possible.

Policy S3 Spatial Strategy and Growth explains the quantum and distribution of need proposed through the Plan, alongside establishing the settlement hierarchy. It furthers that proposals for development outside the defined settlement limits, such as the Potential Site, will be limited to a series of criteria; one of which is 'other development requiring a countryside location for technical or operational reasons'. This sentiment is continued through **Policy S5 Development Principles** which sets out principles for development within the defined physical limits of the Principal, Key and Local Service Centres, Limited Growth Villages and appropriate development adjacent to Infill / Rounding Off Villages.

Policy S6a *Workington* and **Policy S6c** *Cockermouth* set out area-based policies for broad areas within Allerdale. Although these do not explicitly relate to renewable or solar development, both areas seek to protect and enhance the special character of the River Derwent and its corridors as a habitat site and a SSSI. Area-based policies for the Cockermouth require development to have regard for the landscape character of the locality, with particular focus on the setting of the Lake District National Park, whilst area-based policies for Workington require conservation and maintenance of the Grade I listed building and schedule monument of Workington Hall and Curwen Park to the east of the Potential Site.

Policy S20 *Nationally Significant Infrastructure Projects* (NSIP) states that the Council will actively engage with the development of an NSIP from the pre-application stage to ensure: a robust programme of community consultation with the local community and stakeholders is achieved; and that appropriate mitigation measures are considered to reduce the potential impact on the day-to-day activities of the community as a result of the proposed development. Sustainable forms of transport will be encouraged to move construction materials and workers, and temporary workers will be expected to be located in the Principal or Key Service Centres close to services and public transport routes. Local socio-economic opportunities for the West Cumbria economy will be expected to be maximised.

Policy S21 *Developer Contributions* sets out the Council's ambitions to ensuring that necessary infrastructure is available to meet the needs of development. The policy establishes a list of infrastructure, facilities and services to which development may be required to contribute to. It is the Council's intention to use CIL where this can be done without compromising development viability.

Policy S33 *Landscape* states that the landscape character and local distinctiveness of the Plan Area shall be protected and conserved, and where possible, enhanced. It noted that the Cumbria Landscape Character Assessment Toolkit will be used to inform the detailed assessment of individual proposals. Proposals for development should be compatible with the distinctive characteristics and features of Cumbria's landscape types and sub types.

Policy S35 *Protecting and Enhancing Biodiversity and Geodiversity* requires that conditions for biodiversity will be maintained and improved and important geodiversity assets will be protected. Nationally and internationally protected sites and species will be afforded the highest level of protection, and the Council will seek positive improvements to the quality of the natural environment through sustainable development resulting in net gains for biodiversity across the Plan Area.

Also, of relevance are:

- **Policy S24** *Green Infrastructure* which seeks the promotion of the creation, enhancement, maintenance and protection of a range of green infrastructure assets that contribute to a diverse network of natural and man-made spaces, habitats and landscapes.
- **Policy S27** *Heritage Assets* which seeks to conserve and enhance all heritage assets in a manner appropriate to their intrinsic historic value and significance.
- **Policy S29** *Flood Risk and Surface Water Drainage* which states that developments should be avoided in locations that would be at risk of flooding, or where it would increase the level of flooding elsewhere.

Allerdale Local Plan (Part 2)

The Allerdale Local Plan (Part 2) was adopted in July 2020, and allocated land to deliver the strategy set out within Part 1.

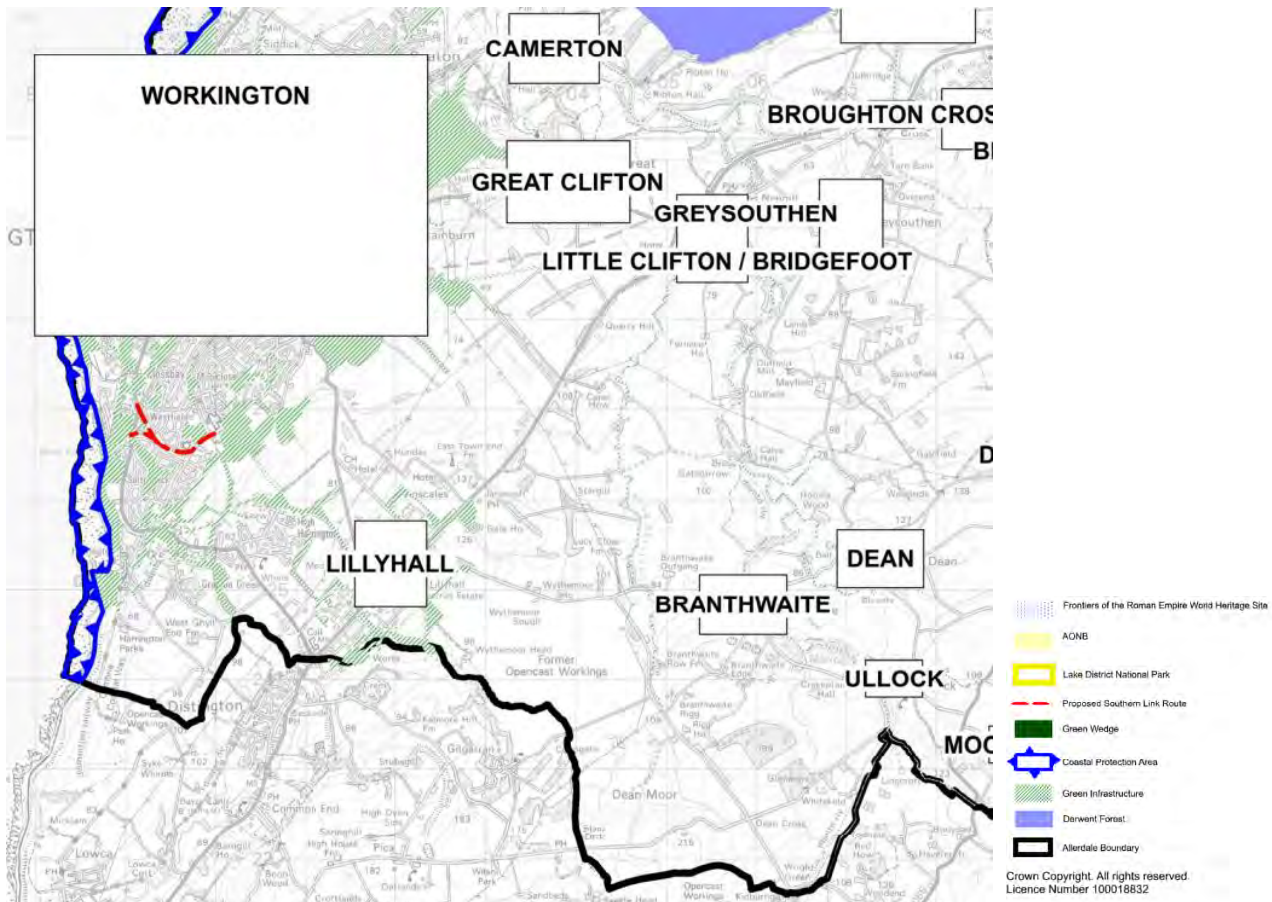
Policy SA2 *Settlement boundaries* notes that proposals outside the settlement boundaries will be supported where it can be demonstrated that it complies with Policy S3 and other policies in the Local Plan. The Potential Site exists outside any defined settlement boundaries.

Policy SA52 *Protecting and Creating Green Infrastructure* is relevant as Lostrigg Beck and the River Marron are identified as Green Infrastructure on the proposals map. Development on land identified as Green Infrastructure on the Policies Map will be supported subject to compliance with other policies within the Local Plan and the proposals demonstrating how the green infrastructure network has been integrated within the scheme, and functionality and connectivity maintained. In some circumstances off-site compensatory

provision may be appropriate. Proposals for major development will be required to strengthen the network through the creation of new or enhancement of existing green infrastructure.

The south-western edge of the Site is adjacent to an allocation for employment uses (**Policy SA1 Land north of Branthwaite Road**).

Figure 2 Allerdale Local Plan (Part 2) Policies Maps



Cumbria Minerals and Waste Local Plan 2015-2030 (CMWLP)

The CMWLP was adopted in 2017 and sets out the Council's vision and strategy for waste management and minerals development. The site falls within a 'Minerals Consultation Area', on the basis that the northern tip and south-eastern edge of the Site are identified as falling within 'Sand and Gravel Minerals Safeguarding Areas'. The site also falls within the 'Ministry of Defence Technical Sites' Technical Safeguarding Areas. Lillyhall employment site, to the south of the Potential Site is identified as a Broad Area for Waste (BRO1) with two small allocations (AL37 and AL08).

BRO1 *Lillyhall Industrial Estate, Workington* which is outside the Potential Site area, is identified as an industrial estate with the potential to support further waste management provision. AL37 is for an appropriate application for *Lillyhall industrial estate to replace the HWRCs at Clay Flatts, Workington, and at Frizington*, whilst AL8 *Lillyhall Waste Treatment Centre* is identified as suitable for a waste management facility under Policy SAP2.

Other Material Considerations

In summary these are likely to consider:

- Cumbria Renewable Energy Capacity and Deployment Study (2011)
- Allerdale Developer Contributions SPD (2017)

3.6 Planning Application History

Based on a review of planning applications submitted to the former Allerdale Council, there is has been one application for prior approval and no further planning history for the Site in the past 5 years⁹.

In February 2023, an application for prior approval was submitted for a ‘new road for the safe management of woodland’ (AFRN/2022/0006). This concluded that prior approval was not required.

In 2015, a request for a ‘screening opinion for the erection of a single wind turbine 50m hub height 77m tip height’ (SCR/2015/0021) concluded that EIA would be necessary, but no further application appears to have been pursued.

In 2014, a ‘prior notification for new access over River Marron’ was approved (2/2013/0380).

In 2010, full planning permission was approved with conditions ‘to erect, install and commission a Gaia 11kw wind turbine with 18mtr hub height and 24.7metre tip height’ (2/2010/0533).

Several older domestic applications exist at named residential properties within the Site, including: Furnace House in the central portion of the Site (2/2003/0137); Brackenbarrow House adjacent to the A595 (2/2000/0605); Stargill also in the central portion of the Site (2/2000/0605).

There are several applications for wind turbines, now built, to the north of Winscales Road.

⁹ <https://www.allerdale.gov.uk/en/planning-building-control/planning-applications/planning-applications-your-area/>

4. Methodology

This LVA is intended to inform site selection and refinement of the land parcels which might be taken forward for development. It does not comprise a full Landscape and Visual Impact Assessment (LVIA), which would be required as part of the Environmental Impact Assessment (EIA) to support a future DCO application. The methodology for this LVA is therefore proportionate to the early stage of the project and the objectives of identifying risks, constraints and opportunities. It makes clear distinctions between landscape effects and visual effects:

- Landscape effects relate to changes to the landscape as a resource, including physical changes to the fabric or individual elements of the landscape, its aesthetic or perceptual qualities, and landscape character.
- Visual effects relate to changes to existing views of identified visual receptors ('people'), from the loss or addition of landscape features within their view due to the Proposed Development.
- The methodology is set out in detail in **Appendix B**.

4.1 Proposed Development

At this stage the Proposed Development is understood to comprise the following elements:

- Solar PV modules of either 3m height if fixed panels or 4.3m height if trackable panels;
- Inverters, transformers, and switchgears of up to 3m height dispersed across the Site;
- Battery Energy Storage System (BESS) of up to 3m dispersed across the Site;
- One on-site substation with a maximum dimension of 70m x 70m and up to 8m in height; and
- Potential communication tower of 15m height.

4.2 Assumptions/Limitations

The following assumptions and limitations apply to the report as information was not available at the time of the assessment:

- At this stage there is only limited knowledge of the exact location of proposed solar panels, sub-station, communication mast, and ancillary buildings;
- For this early stage of the project, construction effects and mitigation have not been considered;
- It is assumed that existing vegetation, such as woodland blocks and hedgerows are retained;
- The 15m high communication mast would be experienced in the context of the wind farm immediately to the west and electricity pylons and is therefore not likely to give rise to significant effects on its own. For that reason, it has not been included for the modelling of the ZTV; and
- For the purpose of the report it is assumed that the entire site would be developed with no mitigation applied to represent a 'worst-case scenario'.

5. Baseline conditions

5.1 Landscape baseline and sensitivity

5.1.1 National Character Areas

National Character Areas (NCA) have been reviewed to provide a summary of the landscape character setting of the wider study area. They will not be assessed as the scale of these receptors is too broad for the size of the development.

The Site and its surroundings within the 3km study area lie within NCA 7: West Cumbria Coastal Plain. To the east within the wider study area of 8km lies NCA 8: Cumbria High Fells and to the north NCA 6: Solway Basin. Within the most western part of the wider study area the West Cumbria Coastal Plain borders onto the Irish Sea.

NCA 7: West Cumbria Coastal Plain

The key characteristics relevant to the Site are:

- Undulating coastal landscape of varying width with open views to the Cumbria High Fells NCA and across the Irish Sea;
- Lowland river valleys with limited ancient semi-natural woodland;
- Open pastoral farmland with occasional woodlands, basin and valley fens, remnant semi-natural grasslands/meadows associated with streamsides, low-lying land, and localised pockets of arable land;
- Areas of ancient enclosure with medium to large rectilinear fields and few hedgerow trees. They are bounded by hedges (often gappy and augmented by wire fences), stone walls on higher ground, and stone-faced earthbanks locally known as ‘kests’;
- Limited tree cover, with most woodland to be found on steeper slopes and along river corridors. There are some plantation woodlands and shelterbelts associated with the upland margins of the area and former open cast mining sites;
- Dispersed rural settlement pattern of hamlets and isolated farmsteads with some villages;
- Distinctive building materials as a combination of locally quarried red sandstone, red brick and render augmented by coastal pebbles along the southern coast;
- Larger urban settlements and coastal towns are closely linked with the growth and location of the area’s strong industrial history of coal and iron ore mining, processing ore, smelting and ship-building; and
- Extensive urban-fringe influence is linked to highly visible industrial past and present, including quarrying, open cast mining, restoration and reclamation initiatives, manufacturing and processing plants and the nuclear energy industry.

To the east the landscape rises to the hills of the Lake District National Park which are included in the Cumbria High Fells (NCA 8). This is described as: *‘a dramatic upland landscape, carved by past glaciations, with rugged peaks, ridges and open fells, separated by U shaped valleys with a radiating pattern of lakes and rivers.’*

5.1.2 County Landscape Character Assessment

The Cumbria Landscape Character Assessment¹⁰ identifies several landscape character types (LCT) and sub-types within the study area. The Site and its immediate surroundings lie within LCT Lowland, which within the study area comprises of the Ridge and Valleys (sub type 5a), the Rolling Lowland (sub type 5c) and the Urban Fringe (sub type 5c). To the north, along the River Derwent stretches the Broad Valley (sub type 8b).

¹⁰ Cumbria County Council (March 2011) Cumbria Landscape Character Guidance and Toolkit, Part One Landscape Character Toolkit

To the south lies LCT Intermediate Moorland Plateau, including the sub types Open Moorlands (sub type 9a) and Ridges (sub type 9d). To the east towards the hills of the Lake District National Park lies the Rolling Fringe (sub type 12b).

Sub-type 5a: Ridge and Valleys

Except for a small area of land along the River Marron to the east, most of the Site is located with the landscape character sub type 5a, Ridge and Valley. Its key characteristics relevant to the Site and the study area are:

- *“A series of ridges and valleys that rises gently toward the limestone fringes of the Lakeland Fells”;*
- *“Well managed regular shaped medium to large pasture fields”;*
- *“Hedge bound pasture fields dominate, interspersed with native woodland, tree clumps and plantations”;* and
- *“Scattered farms and linear villages found along ridges”.*

In addition, electricity pylons and large areas of wind turbines are located within this area. The value of the Ridge and Valleys sub-type is judged to be medium as it is not designated for its landscape qualities but has many features of value such as hedgerows and woodlands. The landscape is generally in a good condition with some detracting features like wind turbines and pylons.

Sub type 5c: Rolling Lowland

To the east, the Ridge and Valley (sub type 5a) adjoins the Rolling Lowland (sub type 5c) in which a small area of the Site along the River Marron is situated. Its key characteristics relevant to the Site and the study area are:

- *“Open undulating and rolling topography”;*
- *“Lowland agricultural landscape dominated by pasture”;*
- *“Hedges and hedgerows trees are common on lower ground”;* and
- *“Some scrub woodland.”*

The value of the Rolling Lowland sub-type is judged to be medium as it is not designated for its landscape qualities but has many features of value such as hedgerows and woodlands. The landscape is generally in a good condition with some detracting features like electricity pylons.

Sub-type 8b: Broad Valleys

Within the northern part of the study area along the River Derwent, stretches the Broad Valleys (sub type 8b) in which a small area of the Site along the River Marron is situated. Its key characteristics relevant to the Site and the study area are:

- *“Wide and deep valleys with open floodplains”;*
- *“Rural farmland comprising significant areas of improved pasture”;*
- *“Pockets of scrub, woodland and coniferous plantations”;*
- *“Hedges and stone walls form a matrix of field boundaries”;* and
- *“Roads and railway lines often follow the linear valley contours.”*

The value of the Broad Valleys sub-type is judged to be medium as it is not designated for its landscape qualities but has many features of value such as stone walls, hedgerows and woodlands. The landscape is generally in a good condition with some detracting features like the major road corridor of the A66.

Sub type 9a: Open Moorlands

Within the southern part of the study area on elevated ground lies the Open Moorlands (sub type 9a). Its key characteristics relevant to the Site and the study area are:

- *“High mostly open landscapes”;*
- *“Undulating semi-improved and unimproved pasture;”*
- *“Open rough moorland;”* and
- *“Areas of deciduous woodland”.*

The value of the Open Moorland sub-type is judged to be medium as it is not designated for its landscape qualities but has many features of value such as its moorland and deciduous woodlands. The landscape is generally in a good condition.

Landscape character sub type Ridges (sub type 9d)

This sub-type is found within the southern part of the study area on elevated ground adjacent to the Open Moorlands (sub type 9a). Its key characteristics relevant to the Site and the study area are:

- *“Distinct ridges;”*
- *“Extensive areas of true heathland moorland”;*
- *“Improved pasture with distinctive stone walls”;* and
- *“Woodland and small belts of trees form prominent features.”*

The value of the Ridges sub-type is judged to be medium as it is not designated for its landscape qualities but has many features of value such as its stone walls, heathland moorland and woodlands. The landscape is generally in a good condition.

Landscape character sub type Rolling Fringe (sub type 12b)

Within the eastern part of the study area on elevated ground towards the Lake District National Park lies the Rolling Fringe Moorlands (sub type 9a). Its key characteristics relevant to the Site and the study area are:

- *“Large-scale undulating topography”;*
- *“Large fields of improved pasture”;*
- *“Stone walls mainly in the east, occasional hedges and fence boundaries”;*
- *“Very sparse tree cover”;*
- *“Some large scale conifer plantations”* and
- *“Small streams and rivers cut through the rolling topography.”*

The value of the Rolling Fringe sub-type is judged to be medium as it is not designated for its landscape qualities but has many features of value such as stone walls and hedgerows. The landscape is generally in a good condition.

Overall, it is assessed that the value attached to the landscape character sub-types within the study area is medium as none are designated for their landscape quality but display indicators of value.

Regarding the susceptibility to the type of development proposed it is judged that the landscape character types on elevated and rising ground have a higher susceptibility as the Proposed Development would likely be more open and exposed. The lowland and valley landscape character types would be more able to accommodate the Proposed Development without undue consequences because they have more extensive existing vegetation patterns which would assist in integrating solar farm development.

The sensitivity of the landscape character types has been derived by combining judgments on value and susceptibility in accordance with the methodology (refer to Appendix B). Further, more detailed assessment

would be carried out against the factors set out in Table 1 and Table 8 of Appendix B should the Proposed Development be taken forward to a DCO application.

Table 1 below summarises the sensitivity of the character types/landscape receptors.

Table 1 Sensitivity of landscape Character receptors

Local Landscape Character Types (landscape receptors)	Value	Susceptibility	Sensitivity
5a: Ridge and Valley (Lowland)	Medium	Medium	Medium
5c: Rolling Lowland	Medium	Medium	Medium
8b: Broad Valleys	Medium	Medium	Medium
9a: Open Moorland	Medium	High	High
9d: Ridges	Medium	High	High
12b: Rolling Fringe	Medium	High	High

5.2 Visual baseline and sensitivity

A map showing the Zone of Theoretical Visibility (ZTV) within the wider study has been prepared (refer to Figure 4 in Appendix A). The maps illustrate two bare-earth ZTV's for the two potential solar panel heights under consideration. The first ZTV represents the theoretical visibility for fixed solar panels modelled at 3m height above ground level (AGL) and the second ZTV shows the theoretical visibility of the trackable solar panels modelled at 4.3 m height AGL. Both ZTVs include the proposed 8m high substation. The 15m high communication mast has not been included in the modelling of the ZTVs.

To represent a worst-case scenario with regards to visibility of the Proposed Development the ZTV's have assumed that the entire area of each parcel would be built out to the maximum height of the proposed solar panels. The substation has also been located in the most visible location adjacent to the track between Fairview and Stargill. These ZTVs have assisted in identifying the potential extent of views and visual receptor groups described below.

The rolling topography and the partially open nature of the landscape generally only allows near and middle-distance views of parts of the Site. Longer distance views are available from higher ground to the south across open access land at High Park and east from the Lake District National Park. Whilst it is expected that larger areas of the Proposed Development would be potentially be visible from higher ground, effects from these longer distance views are not expected to be significant due to the distance and the fact that the development would form a small part of much wider panoramic views.

Due to the rural nature of the study area, there are several groups of potential visual receptors who may experience visual impacts as a result of the Proposed Development. These visual receptors fall into four main types as follows:

Residential receptors:

- Residents within and near the western part of the Site, who would experience the Proposed Development in views towards the elevated ground within the Lake District;
- Residents within the Site, who would potentially be surrounded by the Proposed Development;
- Residents on the outskirts of Branthwaite and Dean, who would experience views across the south-eastern part of the Proposed Development;
- Residents along the valley of the River Marron, who would experience views across the eastern part Proposed Development;
- Residents on the outskirts of Little Clifton, who would experience views across the northern part of the Proposed Development; and

- Distant residents within the surrounding countryside.

Recreational receptors:

- Cyclists and pedestrians along Winscales Road (A595) on the western site boundary;
- Users of PRow's within and between the Sites, which would be surrounded by the Proposed Development;
- Users of PRow along the valley of the River Marron between the Scheduled Monuments and Listed Buildings;
- Users of Oilys Pub, who would experience indoor views east across site to distant hills within the Lake District National Park; and
- Users of the PRow's and open access land (refer to Figure 1 within Appendix A) on elevated ground within the surrounding countryside.

Transport receptors:

- People travelling along Winscales Road (A595) along the western site boundary;
- People travelling along the local road between Lillyhall Business Park and Branthwaite along the southern site boundary;
- People travelling along the local road between Dean and Little Clifton along the eastern site boundary; and
- People travelling along local roads within the wider countryside.

Employment receptors:

- People working at Lillyhall Business Park;
- Farmers within or in close proximity to the Site; and
- Farmers within the wider countryside.

At this stage, the value attached to views experienced by the majority of visual receptors has been judged to be medium as landscape and views are not designated and the views have some detracting features such as the electricity pylons and wind turbines. Where the Lake District National Park forms the backdrop to views but is not the principal focus, the value attached to the view is considered high. The value of views experienced by visual receptors along Winscales Road (A595) is judged to be low as the view comprises little features of value and includes detracting features such as the large scale wind turbines. The value of visual receptors within the Lillyhall Business Park is considered to be low as views are across landscapes which are not designated for landscape quality and likely to exhibit few indicators of value include detracting features. If the Proposed Development is taken forward to a DCO Application, a furthermore detailed assessment will be carried out to determine the value attached to each view with reference to photographs.

The susceptibility of residential receptors has been assessed to be high due to the permanence of their view. Overall, taking the value and the susceptibility of residential receptors into consideration their sensitivity to change is considered to be high due to the residents likely particular interest and appreciation of the view from their homes.

The susceptibility of the recreational receptors travelling along the local PRow's has been judged to be medium as their appreciation of the surrounding landscape are relevant to the experience, including the view of the Lake District and the views experienced along the valley of the River Marron between the Scheduled Monuments and Listed Building. However, recreational receptors are not travelling along a promoted route. Overall, taking the value and the susceptibility of the recreational receptors using the local PRow into consideration their sensitivity to change is considered to be high.

The susceptibility of the users of Oilys Public House, which is partially enclosed by vegetation, has been judged to be low as their main focus is on activities within the pub. Their outdoor seating area appears to be

out at the front, with no views of the site or the Lake District. The sensitivity of the users of the pub is judged to be medium as views from here are important at a community level.

The susceptibility of transport receptors along Winscales Road (A595) is considered to be low as their main focus is on travel. The susceptibility of transport receptors along local roads and lanes are considered to be medium as their appreciation of the surrounding landscape are relevant to the experience. Taking into consideration the medium value of the views as well as the low susceptibility it is judged that the sensitivity of the transport receptors along Winscales Road (A595) is low as their interest and appreciation of the view is secondary to their travel. Whilst the sensitivity of transport receptors along local lanes and roads is judged to be medium due to their interest and appreciation of the view.

The susceptibility of the employment receptors is considered to be low for farmers as they are working outdoors and very low for workers within the Lillyhall Business Park as they are working indoors and are therefore less likely to be exposed to the change in view.

The sensitivity of farmers within and surrounding the Site is considered to be low as their interest and appreciation of the view is secondary to their activities. The sensitivity of workers within the Lillyhall Business Park is judged to be very low as the view is inconsequential to their activities.

Table 2 below summarises the sensitivity of the visual receptors.

Table 2 Sensitivity of visual receptor

Visual Receptor	Value	Susceptibility	Sensitivity
<i>Residential</i>			
Residents within the western part of the Site	High	High	High
Residents within the Site	Medium	High	High
Residents on the outskirts of the villages Branthwaite and Dean	Medium	High	High
Residents along the valley of the River Marron	Medium	High	High
Residents on the outskirts of Little Clifton	Medium	High	High
Residents within the surrounding countryside	Medium	High	High
<i>Recreational</i>			
Cyclists and pedestrians along (A595)	Low	Medium	Medium
Users of PRoW's within and between the Sites	Medium	Medium	Medium
Users of PRoW along the valley of the River Marron between the Scheduled Monuments and Listed Building	Medium	Medium	Medium
Oilys Pub	Medium	Low	Medium
PRoW within the surrounding countryside	Medium	Medium	Medium
<i>Transport</i>			
Users of Winscales Road (A595)	Low	Low	Low
Users of the local road between Lillyhall Business Park and Branthwaite	Medium	Medium	Medium

Visual Receptor	Value	Susceptibility	Sensitivity
Users of the local road between Dean and Little Clifton	Medium	Medium	Medium
Users of local roads within the wider countryside	Medium	Medium	Medium
<i>Employment</i>			
Lillyhall Business Park	Low	Very low	Very low
Farmers within and close proximity of the Site	Medium	Low	Low
Farmers within the wider countryside	Medium	Low	Low

6. Appraisal

This section provides a short summary of the potential effects of the Proposed Development assuming that the entire site would be developed and no mitigation would be applied. It is based on the operational scenario only and does not consider the effects likely to arise from construction or decommissioning. These findings are preliminary and may change subject to more detailed assessment.

6.1 Landscape effects

The magnitude of impact is considered to be high for the Ridge and Valley landscaper character sub-type as changes would occur across a large part of the area. However, it is expected that distinctive landscape features such as prominent trees, historic hedge lines and woodland blocks can be retained as part of the Proposed Development. Also, the Proposed Development is considered to be reversible in the longer-term. Taking into account the medium sensitivity as well as the high magnitude the potential effect is likely to be moderate.

The magnitude of impact on the Rolling Lowland landscape character sub-type is considered to be low as only a very small part of this area is likely to be affected. Taking into account the medium sensitivity as well as the low magnitude the potential effect is likely to be minor.

The magnitude of impact on all other landscape character sub-types within the study area is expected to be very low as none would receive direct impacts as a result of the Proposed Development and it is not expected that the Proposed Development would affect their setting. Taking into account the medium sensitivity as well as the very low magnitude the potential effect is likely to be negligible.

Table 3 below summarises the sensitivity and magnitude of impact of the Proposed Development on the landscape receptors identified.

Table 3 Potential effect on landscape character receptors

Local Landscape Character Types (landscape receptors)	Sensitivity	Magnitude of impact	Effects
5a: Ridge and Valley (Lowland)	Medium	High	Moderate adverse
5c: Rolling Lowland	Medium	Low	Minor adverse
8b: Broad Valleys	Medium	Very low	Negligible
9a: Open Moorland	High	Very low	Minor adverse
9d: Ridges	High	Very low	Minor adverse
12b: Rolling Fringe	High	Very low	Minor adverse

6.2 Visual effects

Residential receptors

The magnitude of visual impact is considered to be high for residents along the eastern part of the Site as the Proposed Development would change the character and composition of large parts of the landscape within views looking west across the River Marron towards rising ground. However, the Proposed Development is considered to be reversible. Taking into account the high sensitivity as well as the high magnitude the potential effect is assessed to be major adverse due to the affected views being towards the towards the Lake District National Park.

The magnitude of impact for residents within the Site is judged to be very high as they would be surrounded by the development and therefore views to all sides would be affected. Taking into account the high sensitivity as well as the very high magnitude the potential effect is assessed to be major adverse.

Residents on the outskirts of Branthwaite and Dean are likely to experience a medium magnitude of impact as the character and composition of parts of the landscape would be affected within the medium distance.

Taking into account the high sensitivity as well as the medium magnitude the potential effect is assessed to be moderate adverse.

Residents along the valley of the River Marron are expected to receive a very high visual impact due to the close proximity and the extensive change to the character and composition of the view within the intimate setting of the valley. Taking into consideration the high sensitivity as well as the very high magnitude the potential effect is assessed to be major adverse.

Residents on the outskirts of Little Clifton are likely to experience a low magnitude of impact as most of the Proposed Development should be screened by topography and vegetation. Therefore, there should only be a small change to the view. Taking into consideration the high sensitivity as well as the low magnitude the potential effect is assessed to be minor adverse.

Residents within the wider countryside are expected to experience a low magnitude of impact as the Proposed Development is likely to only cause small changes to the character and composition of the landscape within the view. Taking into consideration the high sensitivity as well as the low magnitude the potential effect is assessed to be minor adverse.

Recreational receptors

Cyclists and pedestrian along Winscales Road (A595) are likely to experience a very low magnitude of impact as it is expected at the Proposed Development would be barely perceivable beyond the roadside vegetation. Taking into account the low sensitivity as well as the very low magnitude the potential effect is assessed to be negligible.

Users of PRoW's within and between the Sites are expected to experience a very high magnitude of visual impact as they would be surrounded by the development and therefore views to all sides would be affected. Taking into account the high sensitivity as well as the very high magnitude the potential effect is assessed to be major adverse.

Users of PRoW along the valley of the River Marron between the Scheduled Monuments and Listed Building are expected to experience a very high visual impact due to the close proximity and the extensive change to the character and composition of the view within the intimate setting of the valley. Taking into consideration the high sensitivity as well as the very high magnitude the potential effect is assessed to be major adverse.

Users of Oilys Pub are expected to receive a very low magnitude of impact as it is expected that the Proposed Development would be barely perceivable from here. Taking into consideration the low sensitivity as well as the very high magnitude the potential effect is assessed to be negligible.

Users of the PRoW's within the surrounding countryside are expected to experience a low magnitude of impact as the Proposed Development is likely to only cause small changes to the character and composition of the landscape within the view. Taking into consideration the high sensitivity as well as the low magnitude the potential effect is assessed to be minor adverse.

Transport receptors

Users of Winscales Road (A595) are likely to experience a very low magnitude of impact as it is expected at the Proposed Development would be barely perceivable beyond the roadside vegetation. Taking into account the low sensitivity as well as the very low magnitude the potential effect is assessed to be negligible.

Users of the local road between Lillyhall Business Park and Branthwaite are likely to experience a low magnitude of impact as it is expected at the Proposed Development would result in a small change to the character and composition of the landscape within the view and due to the speed of travel the change would only be perceived for a short duration. Taking into account the low sensitivity as well as the low magnitude of impact the potential effect is assessed to be minor adverse.

Users of the local road between Dean and Little Clifton are likely to experience a high magnitude of impact as the Proposed Development is likely to change the character and composition of large parts of the landscape within the view and the change would be experienced for a longer duration of time as the receptors travel along the road. Taking into account the low sensitivity as well as the high magnitude of impact the potential effect is assessed to be moderate adverse.

Users of local roads within the wider countryside are expected to experience a low magnitude of impact as the Proposed Development is likely to only cause small changes to the character and composition of the landscape within the view. Taking into consideration the low sensitivity as well as the low magnitude the potential effect is assessed to be negligible as the change would only be experienced for a short time as the receptors travel along and are focused on the road.

Employment receptors

Workers at Lillyhall Business Park are likely to experience a low magnitude of impact as the Proposed Development is likely to only cause small changes to the character and composition of the landscape within the view. Taking into consideration the very low sensitivity as well as the low magnitude the potential effect is assessed to be negligible.

Farmers within and close proximity of the Site are likely to experience a very high magnitude of impact as the Proposed Development is likely to result in extensive changes to the character and composition of the landscape within the view. Taking into consideration the low sensitivity as well as the very high magnitude the potential effect is assessed to be moderate.

Farmers within the wider countryside are expected to experience a low magnitude of impact as the Proposed Development is likely to only cause small changes to the character and composition of the landscape within the view. Taking into consideration the low sensitivity as well as the low magnitude the potential effect is assessed to be negligible as their main focus is expected to be on working the land.

Table 4 below summarises the potential effect of the Proposed Development on visual receptors.

Table 4 Potential effect on visual receptor

Visual Receptor	Sensitivity	Magnitude	Potential Effect
<i>Residential</i>			
Residents within the western part of the Site	High	High	Major adverse
Residents within the Site	High	Very high	Major adverse
Residents on the outskirts of the villages Branthwaite and Dean	High	Medium	Moderate adverse
Residents along the valley of the River Marron	High	Very high	Major adverse
Residents on the outskirts of Little Clifton	High	Low	Minor adverse
Residents within the surrounding countryside	High	Low	Minor adverse
<i>Recreational</i>			
Cyclists and pedestrian along A595	Medium	Very low	Negligible
Users of PRoW's within and between the Sites	Medium	Very high	Major adverse
Users of PRoW along the valley of the River Marron between the Scheduled Monuments and Listed Building	Medium	Very high	Major adverse
Oilys Pub	Medium	Very low	Minor adverse
PRoW within the surrounding countryside	Medium	Low	Minor adverse
<i>Transport</i>			
Users of Winscales Road (A595)	Low	Very low	Negligible

Visual Receptor	Sensitivity	Magnitude	Potential Effect
Users of the local road between Lillyhall Business Park and Branthwaite	Medium	Low	Minor adverse
Users of the local road between Dean and Little Clifton	Medium	High	Moderate adverse
Users of local roads within the wider countryside	Medium	Low	Minor adverse
<i>Employment</i>			
Lillyhall Business Park	Very low	Low	Negligible
Farmers within and close proximity of the Site	Low	Very high	Moderate adverse
Farmers within the wider countryside	Low	Low	Negligible

6.3 RAG Assessment

Parcels of land within the Site have been identified by combining areas of similar character and/or visibility. A RAG rating with a four-point scale has been used to appraise the sensitivity and risk of these parcels with regards to a solar farm development. Reference should be made to Table 5 and Table 6 below and Figure 5 within Appendix A.

Table 5 sets out the categories which define each of the four the RAG levels.

Table 5 RAG rating

RAG Rating	Summary Description
Low	<p>Has limited recreational value with few no footpath networks or designations.</p> <p>Is viewed by people engaged in work, or formal activities or travelling on main roads.</p> <p>Has few or no distinctive components that contribute to the overall character or views or may even have degraded features/characteristics in the landscape or views.</p> <p>Has many components that are easily replaced or substituted. Has considerable scope for effective mitigation and opportunities for improvements to existing landscape or view.</p>
Medium	<p>Is valued locally for its recreational value (footpath network, open space / common land / allotment designations).</p> <p>Is viewed by people travelling along scenic roads through the landscape or walking along small PRoW /residential streets.</p> <p>Has landscape components that contribute to the overall character of the Site but with the presence of some uncharacteristic development (e.g. erosion around infrastructure and settlement edges).</p> <p>Has some components that are easily replaced or substituted.</p> <p>Has scope for effective mitigation within the existing landscape or view.</p>
High	<p>Is valued at the regional or borough/district scale by virtue of its designation or recreational value, evidenced by statutory status or identified quality in the development plan.</p> <p>Is viewed by residential properties or recreational users whose attention is focussed on the landscape.</p> <p>Is largely characterised by landscape components that are distinctive and/or listed.</p> <p>Has components that are not easily replaced or substituted (e.g. mature trees).</p> <p>Has relatively limited scope for effective mitigation within the existing landscape or view.</p>
Very High	<p>Is valued at the international, or national scale by virtue of its designation or recreational value.</p> <p>Is part of a designated view.</p> <p>Is viewed by residential properties or recreational users whose attention is focussed on the landscape.</p> <p>Is predominantly characterised by landscape components that are rare and distinctive and/or listed.</p> <p>Has many components that are not easily replaced or substituted (e.g. mature trees).</p> <p>Has limited scope for effective mitigation within the existing landscape or view.</p>

Table 6 sets out the appraisal of each parcel against the RAG criteria.

Table 6 RAG assessment

Parcel	Risk/Constraints	Opportunities	Mitigation	Overall RAG
P1 (86 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>A public right of way (PRoW) runs along and through the Site. However, this path does not appear to be well used. It can only be safely accessed via the pedestrian and cycle path along the A595 and leads to the fast country lane between Lillyhall Industrial Estate and Branthwaite. There is potential for rerouting PRoW if solar panels are to be located within this field.</p> <p>A listed building ‘Wythemoor Sough and adjoining barn and stable’ lie to the south-east but are visually contained.</p> <p><i>Landscape Character:</i></p> <p>Landscape elements such as the mature trees and woodland block plantations along the edges, groups of mature trees within the fields and remnants of hedgerows within and along the Site and the pasture could be affected by the scheme.</p> <p><i>Visual Amenity:</i></p> <p>The land slopes eastwards towards the Lake District National Park (NP), which would make the Site more visible.</p> <p>Users of PRoWs, residents of farmhouses and the nearby Cumberland Lodge would be sensitive visual receptors within the near and middle distance.</p>	<p>This parcel is already partially contained by woodland blocks and vegetation to the north, east and west as well as a hedgerow along the road to the south. These existing landscape structures can be strengthened with additional planting to provide screening for the proposed solar panels.</p> <p>Furthermore, the parcel is partially screened by surrounding woodland and topography within the immediate wider area.</p>	<ul style="list-style-type: none"> - A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes - Rerouting of PRoW - Strengthen existing woodland and hedgerows with additional planting - Retain mature field trees - Retain a reasonable buffer towards existing farms 	<p>Medium</p> <p>Whilst parcel 1 contains traditional grazing land and mature field trees and the PRoW, the surrounding woodland and topography visually contains this parcel from the immediate wider area. There are good opportunities for mitigation along the edges of this parcel.</p>
P2 (28 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>The listed building ‘Wythemoor Sough and adjoining barn and stable’ lie to the south-west. Views can be partially mitigated through mitigation planting.</p> <p><i>Landscape Character:</i></p> <p>There is a lack of woodland and hedgerows along the perimeter of the Site.</p> <p>The scheme would change the character of the Site from grassland pasture to industrial, but within the pattern of existing fields and with landcover retained beneath.</p> <p><i>Visual Amenity:</i></p> <p>Users of PRoWs, residents of farmhouses, Cumberland Lodge and small residential areas would be sensitive visual receptors within the near and middle distance.</p>	<p>Parcel 2 slopes westwards away from the Lake District National Park and therefore should be less visible from there.</p> <p>This parcel is visually contained to the east due to topography of the Site and the woodland shelterbelt. There are opportunities for mitigation planting around perimeter of the Site.</p>	<ul style="list-style-type: none"> - A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes. - Strengthen existing woodland and hedgerows with additional planting. - Mitigation planting along the perimeter of the parcel. 	<p>Low</p> <p>Parcel 2 is relatively small, has limited recreational value with no distinctive components. The site can be partially visually contained with mitigation planting along the perimeter.</p>
P3 (126 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>The Lostrigg Beck Green Infrastructure designation (Policy SA52, Allerdale Local Plan) lies to the east of the parcel.</p> <p><i>Landscape Character:</i></p>	<p>Parcel 3 is visually contained to the west by the topography on the Site and vegetation along the A595.</p> <p>There are only a few visual</p>	<ul style="list-style-type: none"> - A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes. - Strengthen existing 	<p>Low</p> <p>Parcel 3 is fairly large and consists of a number of fields. Whilst its eastwards sloping topography would make it</p>

Parcel	Risk/Constraints	Opportunities	Mitigation	Overall RAG
	<p>Limited woodland and hedgerows within and surrounding the Site which would help to screen and integrate the scheme.</p> <p>Mature field tree and some trees along the edges of the Site could be affected.</p> <p>The scheme would change the character of the Site from grassland pasture to industrial, but within the pattern of existing fields and with landcover retained beneath.</p> <p><i>Visual Amenity:</i></p> <p>The parcel slopes north and eastwards from a high point at Brackenbarrow/Quarry Hill along the A595 along the eastern site boundary. It therefore slopes towards the Lake District National Park. It is likely there will be very distant views of the Site and the proposed solar farm.</p> <p>Users of the foot- and cycle path along the A595, users of the PRow at Caple How to the south and residents at Brackenbarrow and Caple How would be affected by the scheme due to their close proximity.</p> <p>Recreational and residential receptors on rising ground to the east including visual receptors within the Lake District National Park are likely to experience very distant views of the scheme.</p>	<p>receptors within its immediate setting.</p> <p>There are opportunities to strengthen the Green Infrastructure along Lostrigg Beck referred to in the Local Plan.</p>	<p>woodland and hedgerows surrounding the parcel with additional planting.</p> <p>- To break up large areas of solar panels in views from elevated ground to the east strengthen existing hedgerows and consider adding additional structural planting.</p>	<p>visually more exposed to receptors in the east there are only a very limited number of visual receptors in the near to middle distance. Additional structural planting along the perimeter and within this parcel would improve landscape structure and partially contain the scheme visually.</p>
P4 (109 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>The setting of Plunderland Farmhouse and adjoining barn Listed Building could be affected by the development.</p> <p>There is a PRow within parcel 4. However, it does not appear to be well used and it does not link to other paths or a destination.</p> <p>There are also PRow's to the north and east which connect to the local country lanes and could be used by local residents.</p> <p>The quiet country lane towards Furnace House along the eastern edge of the parcel is likely to be used for walks by local residents.</p> <p>The adjoining Green Infrastructure along Lostrigg Beck to the west of the parcel is designated in the Local Plan.</p> <p><i>Landscape Character:</i></p> <p>Strong pattern with intact historic field boundaries.</p> <p>This parcel contains many small regular shaped fields bound by fragmented hedgerows which should be retained and improved as they provide a strong link with the history of land use, landscape character and ecology.</p> <p>Mature field tree and some trees along the edges of the Site could be protected.</p>	<p>Parcel 4 is visually contained from all sides due to topography and vegetation. Only a small number of local residential and recreational receptors would be affected.</p> <p>Strengthen Green Infrastructure along Lostrigg Beck.</p>	<p>- A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes.</p> <p>- Strengthen existing woodland and hedgerows surrounding and within the parcel with additional planting.</p> <p>- Screen planting should be introduced along the northern boundary of the parcel to screen from views from Little Clifton and the PRow.</p> <p>- Retain a reasonable buffer towards existing farms.</p>	<p>Medium</p> <p>Parcel 4 could be developed with solar panels as it is visually well contained. However, the historic field patterns and mature trees are sensitive to change and should be retained and mitigation planting implemented.</p>

Parcel	Risk/Constraints	Opportunities	Mitigation	Overall RAG
	<p>The scheme would change the character of the Site from small historic pastures to industrial.</p> <p><i>Visual Amenity:</i></p> <p>Development within Parcel 4 would only be seen by residents and recreational users. Local residents who could be affected include residents at the southern edge of Little Clifton, Furnace House and Punderland Farm. Recreational users are likely to be local residents using the PRowS and country lane to Furnace House.</p>			
P5 (12 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>The setting of 'Plunderland Farmhouse and adjoining barn' Listed Building could be affected by the development.</p> <p>The Scheduled Monument 'Little Clifton open heap coke producing bases and associated slag heap' lies within close proximity but its setting appears to be sheltered by mature trees.</p> <p><i>Landscape Character:</i></p> <p>Medium sized pasture partially bound by hedgerows with some mature trees.</p> <p>The scheme would change the character of the Site from grassland pasture to industrial, but within the pattern of existing fields and with landcover retained beneath.</p> <p><i>Visual Amenity:</i></p> <p>The development would be seen by adjacent local residents to the south and users of the local PRow and road network.</p>	Parcel 5 is likely to affect only local residential and recreational receptors.	<ul style="list-style-type: none"> - A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes. - Strengthen existing woodland and hedgerows surrounding and within the parcel with additional planting. - Retain a reasonable buffer towards existing farms. 	Low Could be developed with solar panels if mature boundary vegetation is retained and strengthened and there is a buffer towards the local residential property to the south.
P6 (166 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>The site adjoins Green Infrastructure designation in Policy SA52, of the Allerdale Local Plan along the eastern boundary of the parcel.</p> <p><i>Landscape Character:</i></p> <p>Parcel 6 comprises many landscape components which are distinctive to this valley landscape including mature trees and vegetation along the winding River Marron.</p> <p>There is a strong network of hedgerows and trees which appears to be largely intact.</p> <p><i>Visual Amenity:</i></p> <p>The area is highly visible by users of the PRow connecting Oldfield Mill with Calva Hall and Green Castle Brow road.</p> <p>Visible from Scheduled Monument 'Calva Hall Bridge' and other residential properties at Oldfield and Oldfield Mill.</p>	Strong landscape pattern of mature hedgerows and trees.	<ul style="list-style-type: none"> - A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes - Additional strengthening of existing woodland and hedgerows. - Retain a reasonable buffer towards existing farms. 	High Components largely characteristic of the wider landscape. Viewed by residential and recreational receptors. Development would change the character with limited scope for effective mitigation.

Parcel	Risk/Constraints	Opportunities	Mitigation	Overall RAG
P7 (222 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>-</p> <p><i>Landscape Character:</i></p> <p>Open, small to medium sized fields surrounding the hill at Gateborrow. Fields are bound by remnants of hedgerows. Some mature trees can be found along field boundaries.</p> <p><i>Visual Amenity:</i></p> <p>Visual receptors which could be affected by the scheme in parcel 7 would be residents of Branthwaite, nearby farms, and users of the PRow near Calva Hall. This parcel is likely to be visible from the rising ground to the east, in particular to the Lake District National Park.</p>	-	<p>- A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes</p> <p>- Improve and reinstate hedgerows with some field boundary trees.</p>	<p>High</p> <p>Partially characteristic for moorland</p> <p>Limited scope for mitigating effects.</p> <p>Visually exposed high ground near residential and recreational receptors.</p>
P8 (51 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>-</p> <p><i>Landscape Character:</i></p> <p>Plantation woodland land cover, which would have limited scope for effective mitigation.</p> <p><i>Visual Amenity:</i></p> <p>The area is visible from PRow and farmhouses (Oldfield Mill, Oldfield and Calva Hall to the east).</p>	-	<p>- A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes</p> <p>- Strengthen existing woodland.</p>	<p>High</p> <p>Woodland components are not easily replaced or mitigated.</p> <p>Woodland plantation, visible from PRow and residential farmhouses to the east.</p>
P9 (62 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>The area along Lostrigg Beck is designated as Green Infrastructure (Policy SA52, Allerdale Local Plan).</p> <p><i>Landscape Character:</i></p> <p>Wood and grassland vegetation along the incised river valley of Lostrigg Beck would be lost if developed.</p> <p><i>Visual Amenity:</i></p> <p>Limited number of local residents and recreational receptors would be affected by the scheme.</p>	<p>Parcel 9 could be used for improvements to the existing Green Infrastructure corridor to help mitigating the effects of the scheme in other parcels.</p>	<p>- A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes.</p> <p>- Strengthen existing Green Infrastructure network through enhancement of existing assets.</p> <p>- Incorporate pedestrian and/or wildlife linkages to the existing network.</p>	<p>High</p> <p>The parcel is designated Green Infrastructure and has components which are not easily replaceable.</p>
P10 (126 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>A large part of this parcel lies within the Moorland Line (Defra designation).</p> <p><i>Landscape Character:</i></p> <p>The natural character of the open moorland landscape would be lost.</p> <p>The parcel contains small to large fields, a band of woodland partially stretching along Cavel Gill.</p>	-	<p>- A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes.</p>	<p>High</p> <p>The moorland character is not easily replaceable.</p> <p>There is limited scope for mitigating effect on landscape character.</p>

Parcel	Risk/Constraints	Opportunities	Mitigation	Overall RAG
	<p>Very little existing structural vegetation which could help to screen the Site.</p> <p><i>Visual Amenity:</i></p> <p>Visual receptors include local residents at Stargill, Caple How and Quarry Hill and users of PRoW at Caple How.</p>			
P11 (210 acres)	<p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>Large parts of this parcel lie within the Moorland Line (Defra designation).</p> <p><i>Landscape Character:</i></p> <p>The natural character of the open moorland landscape would be lost.</p> <p>The parcel contains small to large fields, a band of woodland partially stretching along Cavel Gill.</p> <p><i>Visual Amenity:</i></p> <p>Limited number of visual receptors, including residents at Winscale Road, Stargill and Caple How and users of the PRoW at Cable How and users of the foot- and cycle path along the A595.</p>	<p>Electricity pylons and powerlines already detract from the tranquil character.</p>	<ul style="list-style-type: none"> - A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes. - Strengthen existing woodland and hedgerows with additional planting. - Retain mature trees and woodland blocks. - Retain a reasonable buffer towards existing farms. 	<p>High</p> <p>Moorland character which is not easily replaced.</p> <p>Limited scope for mitigating effect on landscape character.</p>
P12 (120 acres)	<p>Substation of approximately 70x70m and 8m height is proposed within the north-western part of this parcel.</p> <p>Fields will be crossed by cable routes which would need reinstating.</p> <p><i>Landscape Designation/Policy:</i></p> <p>Area along Lostrigg Beck designated as Green Infrastructure (Policy SA52, Allerdale Local Plan).</p> <p><i>Landscape Character:</i></p> <p>A number of small to medium fields bound by remnants of hedgerows and some small blocks of woodlands around the edges. Parcel 12 is divided by a small section of the Green Infrastructure corridor along Lostrigg Beck.</p> <p><i>Visual Amenity:</i></p> <p>Sensitive visual receptors which might be affected include users of the PRoW to the south, visitors to Cumberland Lodge, residents at Winscale Road, Stargill, Branthwaite Outgang and Lucy Close Farm and visitors to Oily public house.</p>	<p>Existing blocks of woodland and local topography partially contain the Site.</p> <p>Limited number of visual receptors who can be with effects effectively mitigated for through planting.</p> <p>Electricity pylons and powerlines already detract from the tranquil character.</p>	<ul style="list-style-type: none"> - A detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes. - Strengthen existing woodland and hedgerows with additional planting. - Enhance Green Infrastructure along Lostrigg Beck. - Retain mature field trees and woodland blocks. - Retain a reasonable buffer towards existing farms. 	<p>Low</p> <p>Largely visually contained by local topography and woodland belts.</p> <p>Scope for effective mitigation for views from local PRoW and nearby residential receptors.</p>

6.4 Mitigation

The following mitigation measures would help to integrate the Proposed Development into the landscape:

- Preparation of a detailed avoidance and reinstatement strategy to minimise impact during construction, e.g. for cable routes;
- Retain mature trees, woodland blocks and hedgerow boundaries within areas of solar panels;

- Breaking up large areas of solar panels with strategic mitigation planting, which would maximise landscape integration and help to reduce the impact of the development when seen from higher ground including the Lake District National Park;
- Enhance existing landscape structures such as woodland blocks and hedges with additional planting to provide instant screening;
- Consider advanced planting to provide early establishment and maximise visual screening;
- Enhance Green Infrastructure along Lostrigg Beck, which would support wider local plan objectives and policy and project BNG commitments;
- Retain a reasonable buffer (minimum of 50m) between existing farms and the Proposed Development;
- Explore opportunities to retain grazing under panels; and
- Consider enclosing the substation in timber or metal cladding to blend into the surrounding landscape.

7. Summary and conclusions

The Proposed Development is likely to give rise to potentially moderate adverse effects on the Ridge and Valley landscape character type as large parts of this landscape character sub-type would be affected.

With regards to the visual receptors, residents within the western part of the Site, within the Site and along the River Marron, users of the PRowS within and between the Sites and along the River Marron are likely to experience a major adverse effect as a result of the Proposed Development. Moderate adverse effects are expected for residents on the outskirts of the village Branthwaite and Dean as well as users of the local road between Dean and Little Clifton and farmers within and in close proximity to the Site.

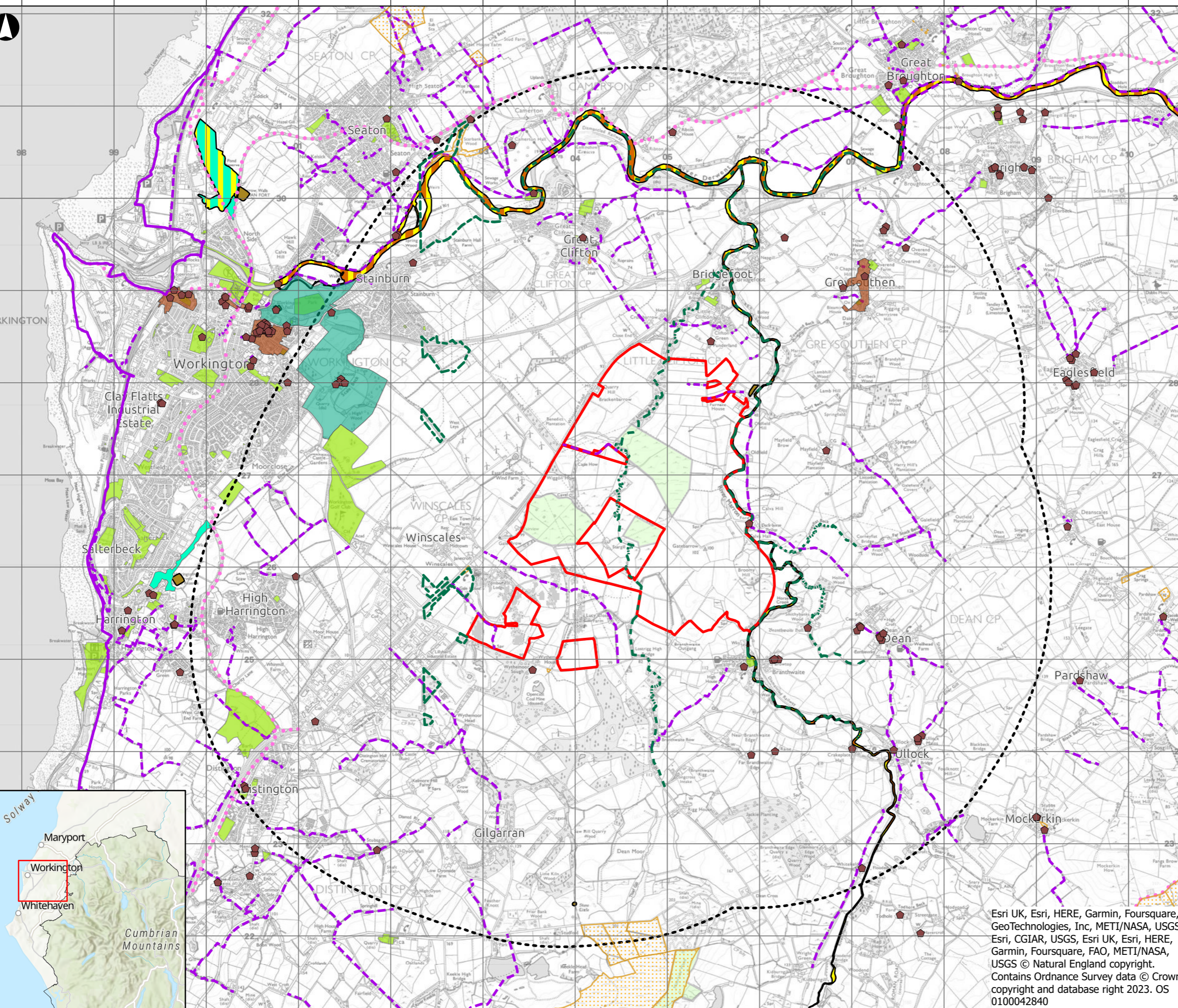
Within the Site areas most suitable for solar farm development is the land at Quarry Hill along Winscales Road (A595), land south of the farm Stargill and a small parcel of land south of Little Clifton (refer to Figure 5 within Appendix A). These areas have been assessed to be less sensitive to solar farm development as they are more contained and less visible, have limited recreational use and are of lesser quality due to their more intensive farming land use. Proposed Development could effectively be mitigated in these locations.

Looking at the distribution of available fields and their RAG rating it might be worth considering fields to the south of the current site boundary to include within the application as they appear to be less sensitive with regards to impacts on landscape and visual receptors and would benefit from existing woodland shelter belts which would help to integrate the Proposed Development.

Appendix A

Figures

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Legend A3

- Site Boundary
- 3km Study Area
- Public Rights of Way
- National Cycle Network
- England Coast Path Route
- Amenity Green Space
- Scheduled Monuments
- Moorland Line
- Sites of Special Scientific Interest
- Special Areas of Conservation
- Local Nature Reserves
- Conservation Areas
- Countryside Right of Way, open access
- Listed Buildings
- Registered Parks & Gardens
- Green Infrastructure near the site

Coordinate System: British National Grid

Metres

0 500 1,000 2,000

P05	24/05/2023	DMcF	DB	--	--
Rev	Date	By	Chkd	Appd	Authd

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Client
JBM Solar

Project Name
Workington Solar Farm

Drawing Title
Figure 1 Landscape Designations

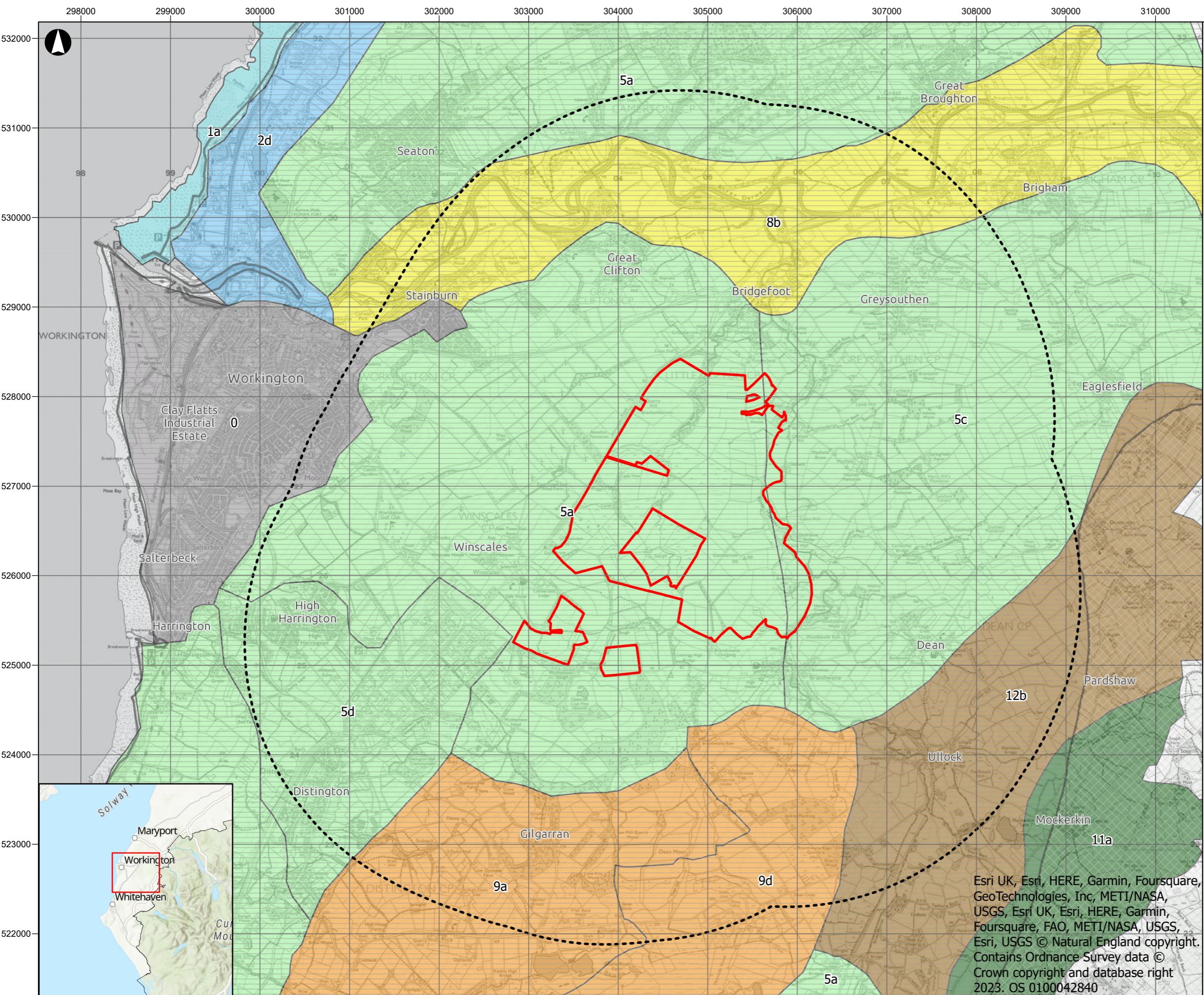
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Role
ENV

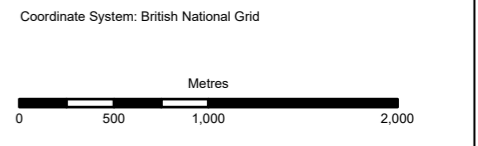
Suitability
For issue

Project Number 602994-75	Rev P05
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- Legend**
- Site Boundary
 - 3km Study Area
- Local Landscape Character SubTypes**
- 0 - Urban Area
 - 1a - Intertidal Flats
 - 2d - Coastal Urban Fringe
 - 5a - Ridge & Valley
 - 5c - Rolling Lowland
 - 5d - Urban Fringe
 - 8b - Broad Valleys
 - 9a - Open Moorlands
 - 9d - Ridges
 - 11a - Foothills
 - 12b - Rolling Fringe
- National Character Area**
- Cumbria High Fells
 - West Cumbria Coastal Plain



P05	24/05/2023	DMcF	DB	--	--
Rev	Date	By	Chkd	Appd	Authd



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Client
JBM Solar

Project Name
Workington Solar Farm

Drawing Title
Figure 2 Landscape Receptors

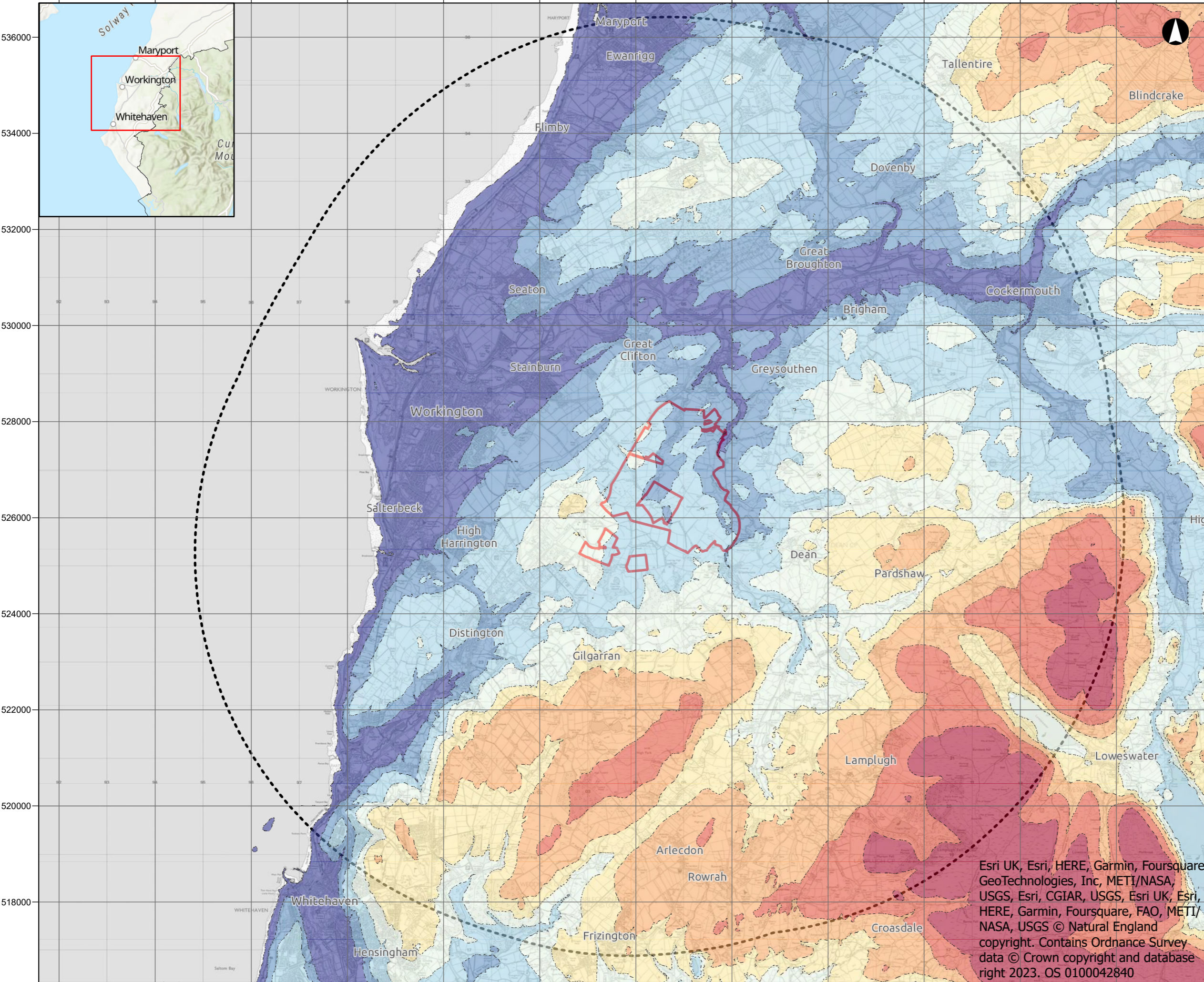
Scale at A3
1:40,000

Role
ENV
Suitability
For issue

Project Number 602994-75	Rev P05
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292000 294000 296000 298000 300000 302000 304000 306000 308000 310000 312000 314000



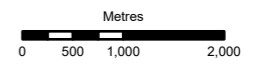
Legend

- Site Boundary
- 8 Km Wider Study Area

Height (m)

- <0
- 0 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 200
- 200 - 300
- >300

Coordinate System: British National Grid



P05	24/05/2023	DMcF	DB	--	--
Rev	Date	By	Chkd	Appd	Authd



Central Square, 5 Forth St
Newcastle NE1 3PL
Tel +44 19 1261 6080
www.arup.com

Client

JBM Solar

Project Name

Workington Solar Farm

Drawing Title

Figure 3 Topography

Scale at A3

1:75,000

Role

ENV

Suitability

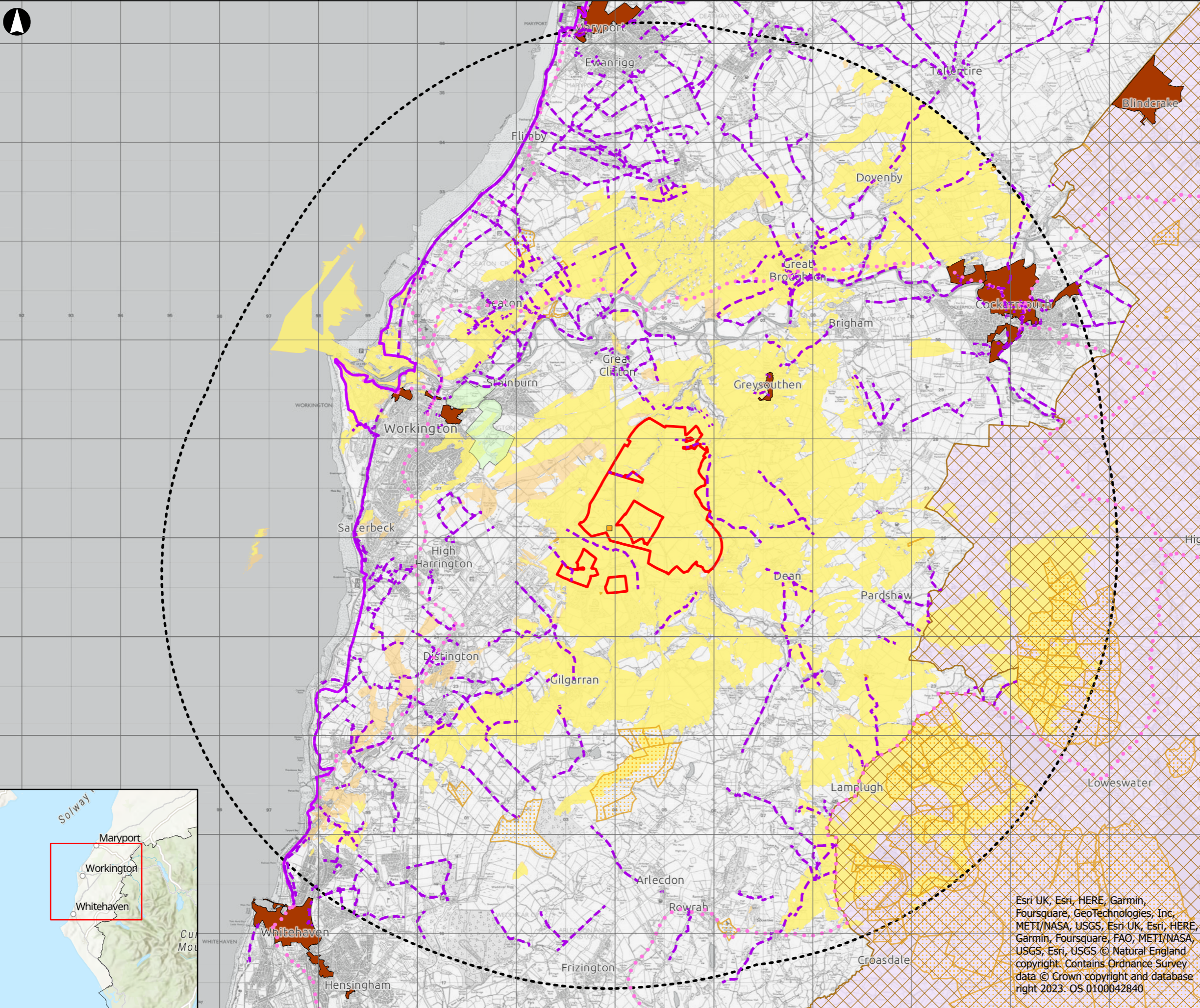
For issue

Project Number
602994-75

Rev
P05

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292000 294000 296000 298000 300000 302000 304000 306000 308000 310000 312000 314000



A3

Legend

- Site Boundary
- Substation
- Public Rights of Way
- England Coast Path Route
- National Cycle Network
- 8km Wider Study Area
- World Heritage Sites
- National Parks
- Countryside Right of Way, open access
- Registered Parks & Gardens
- Conservation Areas
- Zone of Theoretical Visibility (3 m high fixed solar panels and 8 m high substation)
- Zone of Theoretical Visibility (4.3 m high trackable solar panels and 8 m high substation)

Coordinate System: British National Grid

Metres
0 500 1,000 2,000

P05	24/05/2023	DMcF	DB	--	--
Rev	Date	By	Chkd	Appd	Authd

ARUP

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Client
JBM Solar

Project Name
Workington Solar Farm

Drawing Title
Figure 4 Visual Receptors

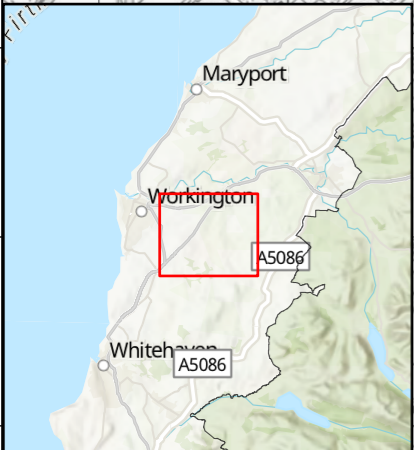
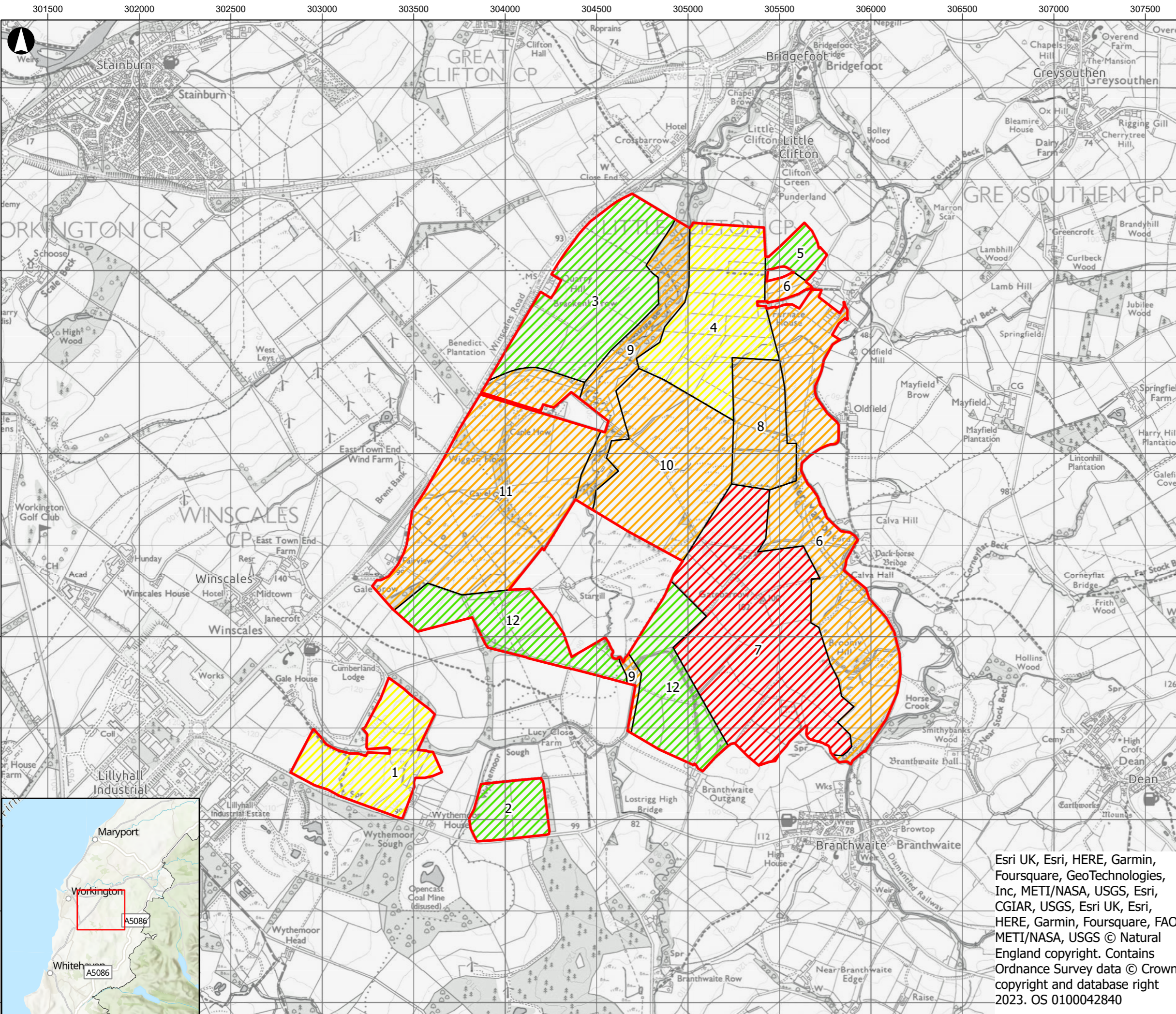
Scale at A3
1:75,000

Role
ENV

Suitability
For issue

Project Number 602994-75	Rev P05
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Legend

- Site Boundary
- RAG Rating**
- Low
- Medium
- High
- Very High

Parcel Number	Area (Acres)
1	72.2
2	30.5
3	124.7
4	112.2
5	13.6
6	173.6
7	223.7
8	52.5
9	65.5
10	127.9
11	213.7
12	137.3

Coordinate System: British National Grid

P05	24/05/2023	DMcF	DB	--	--
Rev	Date	By	Chkd	Appd	Authd

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Client
JBM Solar

Project Name
Workington Solar Farm

Drawing Title
Figure 5 RAG Assessment

Scale at A3

1:20,000

Role
ENV

Suitability
For issue

Project Number 602994-75	Rev P05
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View looking east from western site boundary at Quarry Hill along Winscales Road (A595)



View looking east along farm track between Fairview and Stargill



View looking north-east along local road between Lillyhall Industrial Estate and Branthwaite at southern site boundary



View looking north-west from the edge of Branthwaite

	04/05/2023	DMcF	DB	--	--
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Client

JBM Solar

Project Name

Workington Solar Farm

Drawing Title

Figure 6 View Sheet 1 of 2

Scale at A3

not to scale

Role

ENV

Suitability

For review

Project Number
602994-75

Rev



View looking north west from the edge of the village Dean



View looking west from Greencastle Brow south of Mayfield Farm



View looking west from the lane south of Punderland farm, Little Clifton



View looking north-west from PRoW between Oldfield farm and Calva Hall

	04/05/2023	DMcF	DB	--	--
Rev	Date	By	Chkd	Appd	Authd

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Client
JBM Solar

Project Name
Workington Solar Farm

Drawing Title
Figure 7 View Sheet 2 of 2

Scale at A3
not to scale

Role
ENV
Suitability

For review

Project Number 602994-75	Rev
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Appendix B

Methodology

B.1 Methodology

B.1.1 Assessment standards and guidance

The following standards and guidance have been used to inform the scope and content of the LVA:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013);
- An Approach to Landscape Character Assessment, (Natural England, 2014);
- Assessing landscape value outside national designations, Technical Guidance Note 02/21, (Landscape Institute, 2021);
- Visual Representation of Development Proposals, Technical Guidance Note 06/19 (Landscape Institute, 2019); and
- Infrastructure, Technical Guidance Note 04/20 (Landscape Institute, 2020).

B.1.2 Establishment of the baseline

7.1.1 Desk study

Reference has been made to the prevailing policy framework including the relevant NPSs, the NPPF and local plans and evidence base documents to identify any designated landscapes or features of characteristics of value and their relationship to the Proposed Development.

Other information sources referenced as part of the baseline review included 1:25,000 and 1:10,000 scale Ordnance Survey mapping, three-dimensional topographical data, and site photographs and aerial photography.

The following sources of information were reviewed to inform the landscape and visual baseline and opportunities and constraints which have informed the embedded mitigation and enhancement measures.

- National Character Area profile: 7. West Cumbria Coastal Plain, Natural England (2014);
- National Character Area profile: 8. Cumbria High Fells, Natural England (2012);
- Cumbria Landscape Character Guidance and Toolkit, Part 1, Landscape Character Guidance, Cumbria County Council (2011);
- Allerdale Local Plan (Part 1) and policy maps, Allerdale Borough Council (2014);
- MAGIC database;
- Current OS maps; and
- Aerial Imagery.

A detailed study of topography has been undertaken and this is mapped in Figure 3.

Designations relevant landscape and visual amenity have been mapped in Figure 1.

7.1.2 Fieldwork surveys

Fieldwork surveys were undertaken on 21 April 2023 by a qualified and experienced landscape architect to record the characteristics, features and views of the Site and the study area. The purpose of this fieldwork was to review the boundaries and key characteristics defined in the published landscape character assessments and to identify, record and map characteristics of the landscape not covered by published landscape character assessments.

Attributes recorded as part of the fieldwork surveys included features associated with the natural, built environment and historic landscape which contribute to an understanding of the value attached to the

landscape and views. Perceptual qualities of the landscape, such as tranquillity and time depth were also recorded.

Fieldwork surveys were also used to identify visual receptors and representative viewpoints and to clarify the extent of views, taking account of the effect of intervening features such as buildings and vegetation. As fieldwork was carried out in late spring, assumptions have been made regarding the likely extent of views in winter to inform worst-case assumptions.

B.1.3 Landscape effects

7.1.3 Landscape baseline

GLVIA3 defines landscape receptors as “*aspects of the landscape resource that have the potential to be affected by a proposal*” (Landscape Institute and the Institute of Environmental Management and Assessment, 2013). Landscape receptors have been identified via a review of published landscape character assessments, maps and aerial photography, relevant planning policy and fieldwork surveys.

Landscape character is defined by GLVIA3 as “*a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.*”

Published landscape character assessments at the national, regional and local level have been reviewed to identify Landscape Character Types (LCT) and Landscape Character Areas (LCA). These are mapped in Figure 2.

7.1.4 Sensitivity of landscape receptors

Paragraph 5.39 of GLVIA3 states that “*landscape receptors need to be assessed firstly in terms of their sensitivity, combining judgements of their susceptibility to the type of change or development proposed and the value attached to the landscape*”.

Judging landscape sensitivity is thus a two-part process of:

- Value attached to the landscape – relates to the existing landscape and has been determined at the baseline stage in line with paragraph 5.19 of GLVIA3, which states that “*as part of the baseline description the value of the potentially affected landscape should be established*”; and
- Susceptibility to change – which is considered in relation to the proposed development.

In this initial LVA, the sensitivity of landscape receptors has been considered at the scale of the Site, the immediate surrounding landscape and in the context of the Lake District National Park.

7.1.5 Value attached to the landscape

Landscape Institute Technical Guidance Note (TGN) 02/21: Assessing landscape value outside national designations (Landscape Institute, 2021) defines landscape value as “*the relative value or importance attached to different landscapes by society on account of their landscape qualities*”.

For assessing landscape value outside national designations, Landscape Institute Technical Guidance Note 02/21 is now the primary source of guidance. The approach to assessing the value attached to the landscape has followed a three-stage process:

- **Stage 1** identify if the landscape is covered by any landscape designations;
- **Stage 2** consider each of the factors listed in Table 7 below which have been developed with reference to Table 1 of TGN 02/21 and are pertinent and most important to understanding its value; and
- **Stage 3** make an assessment the value attached to the landscape and assign value based on a five-point scale, clearly articulating the reasons for these judgements.

An overall conclusion will be drawn on the value attached to the landscape for each landscape receptor considering the overall weight of evidence.

Table 7 Establishing landscape value criteria

Stage 1 – Landscape designations	Stage 2 - Define landscape value factors with reference to TGN 02/21	Criteria	Description
<p>Landscape with statutory status or national policy protection: National Park, Area of Outstanding Natural Beauty, or World Heritage Sites</p> <p>Local landscape designation, such as Special Landscape Area or Area of Great Landscape Value, supported by policy and a detailed evidence base.</p> <p>No relevant designations.</p>	<p>Natural heritage - Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest which contribute positively to the landscape.</p>	Very High	A designated landscape with statutory status (National Park or AONB). Valued landscape in the context of NPPF paragraph 174 (a).
	<p>Cultural heritage - Landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape.</p>	High	A locally designated landscape supported by a detailed evidence base or with other strong indicators of value, which may include other relevant designations such as ancient woodland or conservation areas, with identified quality in the development plan or evidence base. May be considered valued landscape in the context of NPPF paragraph 174(a) with strong supporting evidence.
	<p>Landscape condition - Landscape which is in a good physical state both with regard to individual elements and overall landscape structure.</p>	Medium	Unlikely to be a designated for landscape quality but may exhibit some indicators of value which are identified in the development plan or evidence base and are important at the community level.
	<p>Associations - Landscape which is connected with notable people, events and the arts.</p>	Low	Not designated for landscape quality and likely to exhibit few indicators of value which are identified in the development plan or evidence base.
	<p>Distinctiveness - Landscape that has a strong sense of identity.</p>	Very low	A landscape dominated by industry or infrastructure or which is damaged or degraded landscape, not designated for landscape quality and not likely to exhibit indicators of value which are identified in the development plan or evidence base.
<p>Recreational - Landscape offering recreational opportunities where experience of landscape is important.</p>			
<p>Perceptual (Scenic) - Landscape that appeals to the senses, primarily the visual sense.</p>			
<p>Perceptual (wildness and tranquillity) - Landscape with a strong perceptual value notably wildness, tranquillity and/or dark skies</p>			
<p>Functional - Landscape which performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape.</p>			

7.1.6 Valued landscape

The principle of “valued landscape” in England is supported by the NPPF 2021 (Chapter 15). Paragraph 174 requires that planning policies and decisions should contribute to and enhance the natural and local environment by, inter alia, (a) “*protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*”.

According to paragraph A4.2.11 of TGN 02/21, a ‘valued landscape’ is an area identified as having sufficient landscape qualities to elevate it above other more everyday landscapes. There is therefore a high bar for an area to be considered valued landscape in the context of the NPPF.

Paragraph A4.2.5 of TGN 02/21 states that, “*where a landscape has a statutory status, such as a National Park or AONB, it is self-evident that it is a valued landscape*”. Therefore, where such landscapes are present within the study area, these have been attributed very high value and are recognised as valued landscapes in the context of the NPPF.

A different approach has been taken to determine whether landscapes outside of nationally designated landscapes can be considered valued landscape in the context of the NPPF. Paragraph A4.2.6 of TGN 02/21 states that the interpretation of ‘identified quality in the development plan’ is not clear and that there are two fundamentally different interpretations that have been adopted by inspectors, which are considered below in more detail:

1. It means non-statutory, locally designated landscapes;
2. It means any landscape where there is evidence to justify the identification of a ‘valued landscape’. Local designation alone may not be sufficient evidence.

For a landscape without statutory status to be considered valued landscape in the context of the NPPF it must be supported by strong evidence. The assessment has therefore considered each of the criteria set out in Table 7, references in Local Plan policy and evidence base, including whether there are existing local landscape designations in forming an overall judgement. Landscapes with high value may also be considered valued landscape.

7.1.7 Susceptibility of landscape receptors to change

GLVIA3 paragraph 5.40 defines the susceptibility to change of landscape receptors as:

“the ability of the landscape receptor (whether it be overall character or condition of a particular landscape type or area, or an individual element and/or features, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies” (paragraph 5.40).

The features and characteristics which are more or less susceptible to the type of changes proposed have been set out for each LCA. The narrative provides a clear explanation based upon analysis of the landscape receptor and the extent to which it is able to accommodate the type of change arising from the specific proposal. The susceptibility to change has then been categorised with reference to the criteria in Table 8 below.

Table 8 Susceptibility of landscape receptors to change

Criteria	Description
Very high	The type of change arising from the specific proposal are very likely to lead to undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.
High	The type of change arising from the specific proposal are likely to lead to undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.
Medium	The type of change arising from the specific proposal may lead to undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.
Low	The type of change arising from the specific proposal are unlikely to lead to undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.

Criteria	Description
Very low	The type of change arising from the specific proposal are very unlikely to lead to undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.

7.1.8 Combining judgements to define the sensitivity of landscape receptors

The sensitivity of each LCA has been defined by combining professional judgements on the value attached to the landscape and its susceptibility to change and is supported by a clear narrative. Reference has been made to the criteria set out in Table 9 below.

Table 9 Sensitivity of landscape receptors criteria

Criteria	Description
Very high	Landscapes with statutory status or national policy protection with very limited ability to accommodate the type of change without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.
High	Landscapes which may be locally designated or otherwise supported by a detailed evidence base or landscape with other strong indicators of value with limited ability to accommodate the type of change without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.
Medium	Landscapes which are unlikely to be a designated for landscape quality but may exhibit some indicators of value and which may have some ability to accommodate the type of change without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.
Low	Not designated for landscape quality and likely to exhibit few indicators of value and likely to accommodate the type of change no or limited undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.
Very low	Landscapes of very low value able to accommodate the type of change without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.

B.1.3.1 Magnitude of landscape impacts

Paragraph 3.28 of GLVIA3 notes that the magnitude is informed by combining considerations relating to the “*scale, extent and duration*” of impacts. This includes the geographical extent of influence, the spatial extent of the impact, the level of integration of new features with existing elements, its duration and degree to which the impact is reversible.

In summarising the magnitude of landscape impacts, reference has been made to the following:

- Size and scale – the degree to which key characteristics or features identified in the baseline would change.
- Geographical extent – the area over the change would occur.
- Duration and reversibility – the time over which the change would occur and if these changes are reversible, set out on the following scale: short (weeks); medium (months); and long (years).

The criteria set out in Table 10 have been referred to in determining the magnitude of landscape impacts.

Table 10 Magnitude of landscape impacts criteria

Magnitude of landscape impacts	Criteria
Very high	Substantial changes to key characteristics across most of the area or to unique and distinctive features at a local level. May be longer term impacts, permanent or reversible.

Magnitude of landscape impacts	Criteria
High	Changes to the character of the landscape across large parts of the area or to distinctive features at a local level. May be longer term impacts, permanent or reversible
Medium	Changes to the character of the landscape across parts of the area or to some existing features at a local level. May be medium term impacts, permanent or reversible.
Low	Slight change to landscape character or landscape features across a small area. May be short to medium term impacts, permanent or reversible.
Very low	Barely perceptible change to the landscape receptor or may impact a limited area or no key characteristics. May be short term impacts, permanent or reversible.

There may be cases where there will be no impacts on a receptor, for example where the design has been changed to avoid such impacts. In such cases this is recorded as no change.

B.1.4 Assessment of visual effects

B.1.4.1 Visual baseline

Visual receptors are defined in GLVIA3 as “*individuals and/or defined groups of people who have the potential to be affected by a proposal*”. This includes, for example, residents, users of public rights of way and motorists.

Computer-generated zones of theoretical visibility (ZTV) have been prepared and these are presented in Figure 4. GLVIA3 defines as ZTV as “*a map, usually digitally produced, showing areas of land within which a development is theoretically visible.*” The purpose of the ZTV is to:

- Identify the theoretical extents of visibility of the Proposed Development i.e., areas from which it would not be visible and areas from which it could potentially appear in existing views;
- Assist in the identification of the study area;
- Identify visual receptors likely to be affected by the Proposed Development;
- Identify locations that are representative of the views experienced by visual receptors at different locations within the study area (representative viewpoints); and
- Inform the design, including the extent and type of proposed mitigation.

ZTVs have been modelled using the ‘Viewshed’ tool in ESRI ArcMap GIS Software.

A bare earth ZTV was prepared using digital terrain model (DTM) data with a resolution of 2.5m resolution. This ZTV represent a worst-case scenario as it does not include features such as existing buildings or vegetation which can screen or filter views.

For all of ZTVs an assumed viewing height of 1.6m above ground level has been used to simulate the eye level of a person at the top of the range set out in paragraph 6.11 of GLVIA3 to represent the worst-case scenario.

B.1.4.2 Visual receptors and representative viewpoints

Visual receptors likely to experience views of the Proposed Development have been identified through interrogation of the ZTV, desktop analysis of maps and Google Earth, and fieldwork surveys. They have subsequently been categorised into the following types:

- Residential;
- Recreational (people using Public Rights of Ways, foot- and cycle paths, parks and open spaces)
- Transport (people travelling through the area); and

- Employment (people working in the area).

Where a collection of visual receptors in the same category are likely to experience similar views, they have been grouped. Representative viewpoints have been identified within the ZTV to assist in describing the baseline view and the effects likely to be experienced by visual receptor groups. These representative viewpoints have been selected on the basis that they cover a range of viewing distances, elevations and orientations from locations with different viewing experiences of the Proposed Development. The selection of representative viewpoints has been informed by the following criteria:

- Accessibility to the public;
- Number and sensitivity of people whose can be affected;
- Viewing direction, distance, openness and elevation; and
- Nature of the viewing experience.

Photographs taken during a fieldwork survey in April 2023 are included in Appendix A to help demonstrate the nature of baseline views including the extent of existing screening. These photographs are presented as Type 1 annotated photographs.

B.1.4.3 Sensitivity of visual receptors

Paragraph 6.31 of GLVIA3 states that “*each visual receptor, meaning the particular person or group of people likely to be affected at a specific viewpoint, should be assessed in terms of both their susceptibility to change in views and visual amenity and also the value attached to particular views.*” The sensitivity of visual receptors results from a combination of parameters, such as:

- The activity/occupation/ pastime of the receptors at particular locations;
- The extent to which their attention or interest may be focused on the views; and
- The visual amenity they experience.

Consideration has been given to the:

- Location, focus and orientation;
- Features or characteristics of value within the view;
- Principal or secondary interests;
- Static or kinetic nature of views;
- Duration of the view.

B.1.4.4 Value attached to views

A three-stage process has been used to determine the value attached to views. This relates to the features and characteristics of the baseline landscape within the view and other indicators of value, for example reference in policy, guide books, literature or art.

Stage 1: identify if the landscape within the view is covered by any relevant policy or designations and note features and characteristics of value with reference to the landscape baseline;

Stage 2: identify if the view is likely to be from a popular visitor location or has historical or cultural importance or associations; and

Stage 3: Determine the value attached to the view with reference to the criteria provided in Table 11 from a range of very high to very low, using the evidence from stages 1 and 2.

Table 11 Value attached to views criteria

Stage 3: Criteria	Description
Very high	Views within or across a nationally or internationally designated landscapes and/or specific views designated in national or regional policy. Views are likely to have few or no detracting features and which may also have strong cultural associations supported by evidence, which could include links to historical events or people, representation in art or literature, for example.
High	Views within or across regionally or locally designated landscapes, other or landscapes with strong indicators of value, or views identified in the development plan or evidence base. Views are likely to have few or no detracting features and may also have some cultural associations supported by strong evidence.
Medium	Views across landscapes which are unlikely to be designated but may exhibit some indicators of value which are identified in the development plan or evidence base and are important at the community level. Views may have some detracting features and cultural associations supported by evidence.
Low	Views across landscapes which are not designated for landscape quality and likely to exhibit few indicators of value which are identified in the development plan or evidence base. Views are likely to have some detracting features and lack cultural associations supported by evidence.
Very low	View across landscapes which are neither designated, nor identified in the development plan or evidence base, and without cultural associations. The landscape in the view is in poor condition or notably detracts from the experience of the view.

B.1.4.5 Susceptibility of visual receptors to change

The sensitivity of visual receptors is also dependent upon their susceptibility to changes in views and the visual amenity they experience at particular locations.

Paragraph 6.32 of GLVIA3 explains that:

“the susceptibility of different visual receptors to changes in views and visual amenity is mainly a function of:

- a. The occupation or activity of people experiencing the view at particular locations; and*
- b. The extent to which their attention or interest may therefore be focussed on the views and the visual amenity they experience at particular locations.”*

GLVIA3 notes that visual receptors “most susceptible to change”, include residents and visitors engaged in outdoor recreation “whose attention or interest is likely to be focused on the landscape and on particular views” (para 6.33).

Table 12 sets out the criteria referred to in determining the susceptibility of visual receptors to the Proposed Development.

Table 12 Susceptibility of visual receptors to change

Classification	Description
Very high	Visitors to nationally or internationally designated landscapes, particularly at specific viewpoints or viewing places, where views of the landscape are fundamental to the experience. People engaged in specific activities for enjoyment of dark skies.
High	Residents at home. Visitors to tourist hotspots, heritage assets or other attractions outside of nationally or internationally designated landscapes, particularly at specific viewpoints or viewing places, where views of the landscape are important to the experience.

Classification	Description
	People engaged in outdoor recreation whose attention or interest is likely to be focussed on the landscape and on particular views, for example those using promoted walking and cycling routes. People travelling along promoted scenic routes.
Medium	People engaged in outdoor recreation or travelling along public rights of way or local roads, which are not promoted routes but where an appreciation of the surrounding landscape are relevant to the experience. People working outdoors.
Low	People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape. People travelling on major road, rail or other transport routes which are not recognised as scenic routes.
Very low	People working indoors.

B.1.4.6 Summarising the sensitivity of visual receptors

The sensitivity of visual receptors is based on professional judgement informed by the criteria in Table 13, considering the value attached to views and susceptibility of visual receptors to the changes proposed.

Table 13 Sensitivity of visual receptors criteria

Criteria	Description
Very high	Activity where views are fundamental to the experience and are related to landscapes with national or international designation and with few or no detracting features and which may also have strong cultural associations supported by evidence.
High	Activity resulting in a particular interest or appreciation of the view and/or views within or across regionally or locally designated landscapes, other or landscapes with strong indicators of value, or views identified in the development plan or evidence base with few or no detracting features and may also have some cultural associations supported by strong evidence.
Medium	Activity resulting in a general interest or appreciation of the and/or a view, likely to exhibit some indicators of value which are identified in the development plan or evidence base and are important at the community level.
Low	Activity where interest or appreciation of the view is secondary to the activity or the period of exposure to the view is limited, and/or views across landscapes which are not designated for landscape quality and likely to exhibit few indicators of value and likely to have some detracting features and lack cultural associations supported by evidence.
Very low	Activity where interest or appreciation of the view is inconsequential to their activity, and/or across landscapes which are neither designated, nor recognised in policy, and without cultural associations or is in poor condition or notably detracts from the experience of the view.

B.1.4.7 Magnitude of visual impacts

The magnitude of visual impacts relates to the extent to which the baseline view would change as a result of the Proposed Development. This assessment has been made with reference to the photographs from the representative viewpoints shown on Figures 6 and 7.

Paragraph 3.28 of GLVIA3 notes that magnitude is informed by combining considerations relating to the “*scale, extent and duration*” of impacts. This includes the geographical extent of influence, the spatial extent of the impact, the level of integration of new features with existing elements, its duration and degree to which the impact is reversible.

Reference has been made to the following in summarising the magnitude of visual impacts:

- Size and scale – loss of existing features or addition of new features.
- Geographical extent – where the proposed changes would be visible and to what extent.

- Duration and reversibility – the time over which the change would occur and if these changes are reversible, set out on the following scale: short (weeks); medium (months); and long (years).

The criteria set out in Table 14 have been referred to in determining the magnitude of visual impacts.

Table 14 Magnitude of visual impacts criteria

Criteria	Description
Very high	The proposed development will result in extensive changes to the character and composition and will become the dominant feature of the landscape within the view. There may be longer term impacts, permanent or reversible.
High	The proposed development will change the character and composition of large parts of the landscape within the view. There may be longer term impacts, permanent or reversible.
Medium	The proposed development will change the character and composition of discrete parts of the landscape within the view. There may be medium term impacts, permanent or reversible.
Low	The proposed development will cause small changes to the character and composition of the landscape within the view. There may be short to medium term impacts, permanent or reversible.
Very low	The development will cause barely perceptible changes in the character and composition of the landscape within view. May be short term impacts, permanent or reversible.

There may be cases where there will be no impacts on a receptor, for example where the design has been changed to avoid such impacts. In such cases this is recorded as no change.

B.1.5 Significance of landscape and visual effects

Judgements on the sensitivity of each receptor and the magnitude of impact have been combined to establish the significance of effect and whether effects are considered significant in EIA terms. There are important distinctions between these two terms:

- Significance of effect relates to the level recorded for any effect, with reference to the matrix set out in Table 15 below.
- Significant effects are those which are considered most important in the decision-making process. An effect in this LVIA is considered significant in EIA terms if it is of major or moderate significance. All other effects have been categorised as not significant.

Table 13 has been used to guide judgements on the relationship between the sensitivity of a visual receptor, the magnitude of impact and the resulting significance of effect. Where conclusions differ from this guide, a reasoned explanation is provided in the assessment text.

Table 15 Determining the significance of visual effects

		Magnitude of impact				
		Very high	High	Medium	Low	Very low
Sensitivity	Very high	Major	Major	Major or Moderate	Moderate	Moderate or Minor
	High	Major	Major or Moderate	Moderate	Moderate or Minor	Minor
	Medium	Major or Moderate	Moderate	Moderate or Minor	Minor	Minor or Negligible
	Low	Moderate	Moderate or Minor	Minor	Minor or Negligible	Negligible
	Very low	Negligible	Negligible	Negligible	Negligible	Negligible

		Magnitude of impact				
	Very low	Moderate or Minor	Minor	Minor or Negligible	Negligible	Negligible

The identification of the likely significant effects on landscape and visual receptors has relied on detailed analysis and the professional judgement of competent experts, and consultation with stakeholders. Table 16 defines what the significance of effect terms mean.

Table 16 Descriptions for visual effects

Significance of effect	Landscape effects	Visual effects
Major beneficial	Effects that result in a considerable improvement of the existing landscape resource. Valued characteristic features would be restored or reintroduced as part of the development.	Effects that result in a substantial improvement in the existing view.
Moderate beneficial	Effects that result in a partial improvement of the existing landscape resource. Valued characteristic features would be largely restored or reintroduced.	Effects that result in a noticeable improvement in the existing view.
Minor beneficial	Effects that result in a slight improvement of the existing landscape resource. Characteristic features would be partially restored.	Effects that result in a limited improvement in the existing view.
Negligible beneficial	Effects that result in a very slight improvement to the existing landscape resource, not uncharacteristic within the receiving landscape.	Effects that result in a barely perceptible improvement in the existing view.
Neutral	Effects which are a balance between adverse and beneficial effects and are neutral in their consequences for the landscape.	Effects that are a balance between adverse and beneficial effects and are neutral in their consequences for the view of visual receptors.
Negligible adverse	Effects that result in a very slight deterioration to the existing landscape resource, not uncharacteristic within the receiving landscape.	Effects that result in a barely perceptible deterioration in the existing view.
Minor adverse	Effects that result in a slight deterioration of the existing landscape resource. Characteristic features would be partially lost.	Effects that result in a limited deterioration in the existing view.
Moderate adverse	Effects that result in a partial deterioration of the existing landscape resource. Valued characteristic features would be largely lost.	Effects that result in a noticeable deterioration in the existing view.
Major adverse	Effects that result in a considerable deterioration of the existing landscape resource. Valued characteristic features would be wholly lost.	Effects that result in a substantial deterioration in the existing view.

Whether effects are adverse, beneficial or neutral has determined by considering the way in which the changes are likely to affect the baseline.

Adverse effects are likely to occur where the Proposed Development introduces new elements or changes which are discordant or intrusive resulting in a deterioration to existing character or valued features of the landscape or of views and visual amenity.

Beneficial effects are likely to occur where the proposed development enhances the character of the landscape or existing views.

Paragraphs 5.37 and 6.29 of GLVIA3 states that is possible for effects to be neutral in their consequences for the landscape and for visual receptors. Where a judgement of neutral effects has been reached, reference has been made to the contribution of the proposed development to the baseline and acknowledging the positive and negative aspects which have been considered.

Where the assessment has concluded that there will be no impacts on a receptor, this is reported as no effect. This may, for example, be a consequence of changes to the design which has avoided impacts on receptors identified at the scoping stage.

Residual effects are those which remain even with embedded or primary mitigation at construction and year 15 of existence and operation and which cannot be further mitigated by design or other measures in this time period.