

14 Geology 1:10,000 scale - Availability



14.1 10k Availability

Records within 500m

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 78

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





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.





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

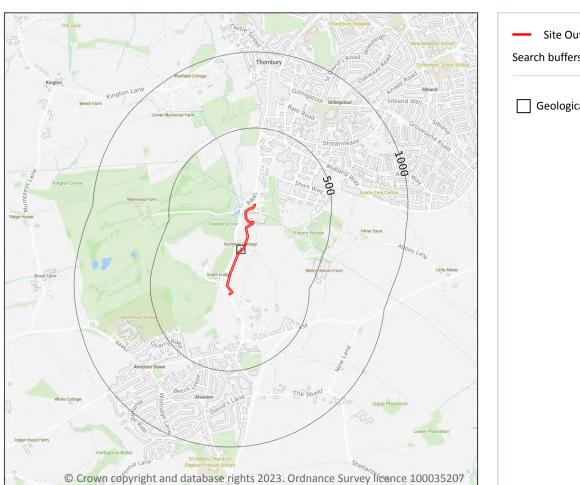
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

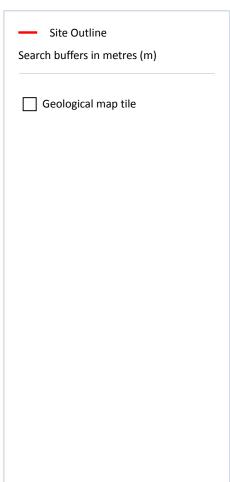
This data is sourced from the British Geological Survey.





15 Geology 1:50,000 scale - Availability





15.1 50k Availability

Records within 500m

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 82

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW250_chepstow_v4





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

15.2 Artificial and made ground (50k)

Records within 500m 0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m 0

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

This data is sourced from the British Geological Survey.





Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m 0

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.

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m 0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m 0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m 0

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

This data is sourced from the British Geological Survey.

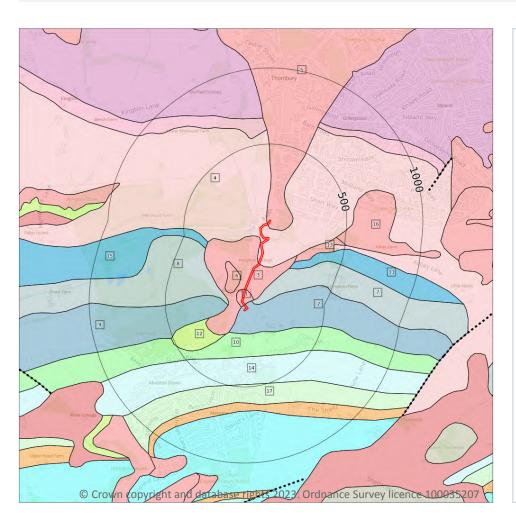


Contact us with any questions at: Date: 16 February 2023

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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 17

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 85

ID	Location	LEX Code	Description	Rock age
1	On site	MMMF- CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
2	On site	BRL-LMST	BLACK ROCK LIMESTONE SUBGROUP - LIMESTONE	TOURNAISIAN
3	On site	MMG- MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-





ID	Location	LEX Code	Description	Rock age
4	On site	TSG-SDST	TINTERN SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
5	On site	MMMF- CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
6	47m SW	MMMF- CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
7	47m S	AVO-MDLM	AVON GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED	TOURNAISIAN
8	85m SW	AVO-MDLM	AVON GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED	TOURNAISIAN
9	88m SW	BRL-LMST	BLACK ROCK LIMESTONE SUBGROUP - LIMESTONE	TOURNAISIAN
10	150m S	BRL-DOLO	BLACK ROCK LIMESTONE SUBGROUP - DOLOSTONE	TOURNAISIAN
11	194m E	AVO-LMST	AVON GROUP - LIMESTONE	TOURNAISIAN
12	196m SW	BAN-MDST	BLUE ANCHOR FORMATION - MUDSTONE	NORIAN
13	211m E	MMMF- CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
14	303m S	GUO- LMOOL	GULLY OOLITE FORMATION - LIMESTONE, OOIDAL	VISEAN
15	338m W	AVO-LMST	AVON GROUP - LIMESTONE	TOURNAISIAN
16	443m E	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
17	484m S	CDM- DLMDST	CLIFTON DOWN MUDSTONE FORMATION - DOLOMITE- MUDSTONE	VISEAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

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

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





Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Moderate
On site	Fracture	Low	Low
47m SW	Fracture	Very High	Very High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m 0

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





16 Boreholes

16.1 BGS Boreholes

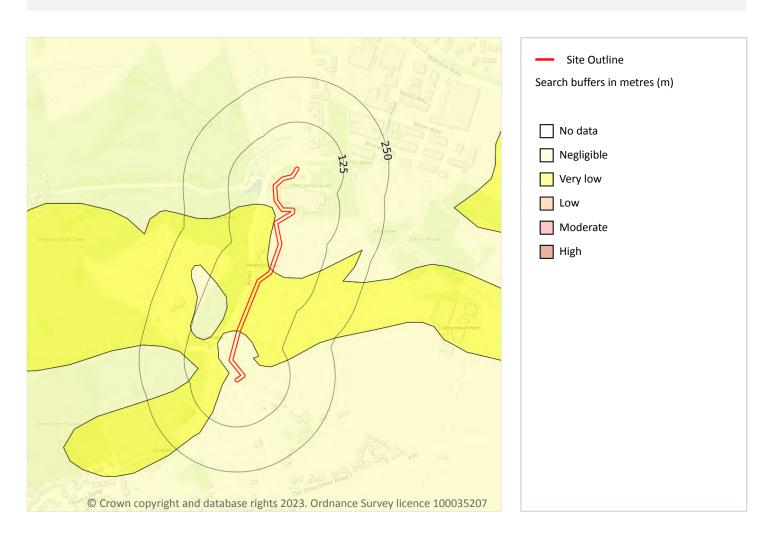
Records within 250m 0

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





17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m 3

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 89

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









Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

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 91

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.

This data is sourced from the British Geological Survey.



Contact us with any questions at: Date: 16 February 2023



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m 1

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on page 92

Lo	cation	Hazard rating	Details
Or	n site	Negligible	Compressible strata are not thought to occur.





Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m 1

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

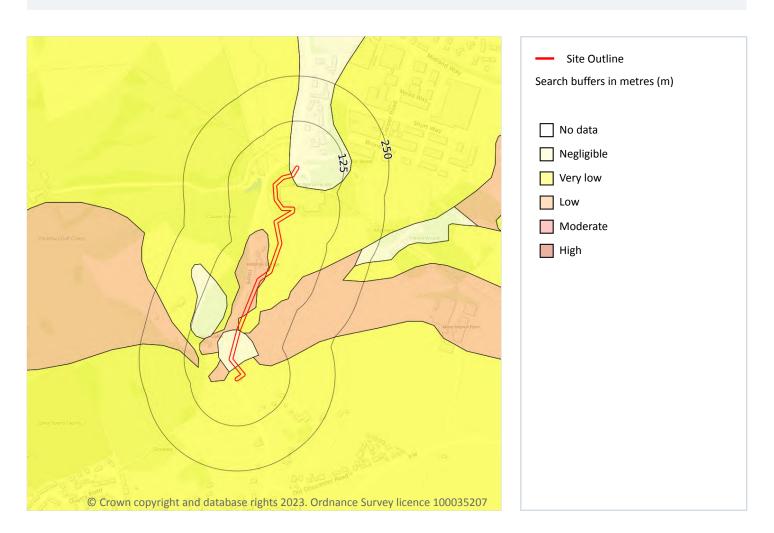
Features are displayed on the Natural ground subsidence - Collapsible deposits map on page 93

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





Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m 6

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 94

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





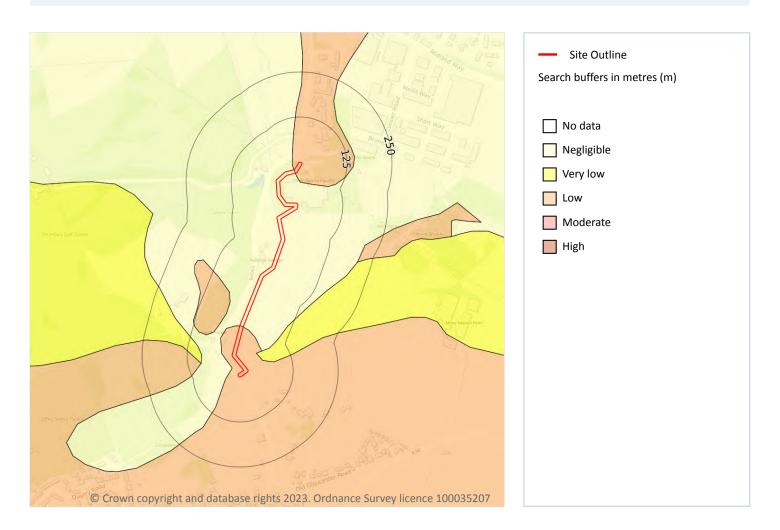
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
11m S	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
20m S	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
47m SW	Negligible	Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

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 4

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 96**

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.





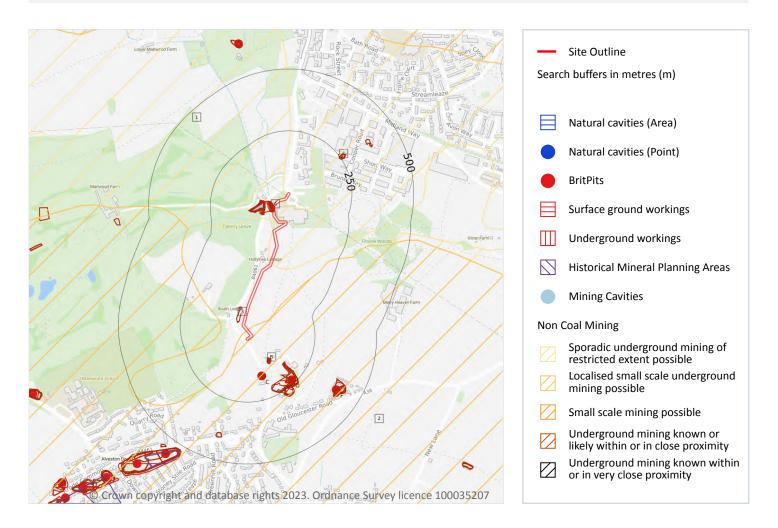
Location	Hazard rating	Details
On site	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.
47m SW	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.
47m S	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

This data is sourced from the British Geological Survey.





18 Mining, ground workings and natural cavities



18.1 Natural cavities

Records within 500m 0

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

This data is sourced from Stantec UK Ltd.





18.2 BritPits

Records within 500m 3

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

Features are displayed on the Mining, ground workings and natural cavities map on page 98

ID	Location	Details	Description
С	154m S	Name: Alveston Green Address: Alveston, THORNBURY, Gloucestershire Commodity: Limestone 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	233m S	Name: Alveston Address: Alveston, BRISTOL, Avon Commodity: Limestone 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
F	400m SE	Name: Alveston Green Address: Alveston, THORNBURY, Gloucestershire Commodity: Dolomite Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m 39

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

Features are displayed on the Mining, ground workings and natural cavities map on page 98

ID	Location	Land Use	Year of mapping	Mapping scale
Α	On site	Pond	1901	1:10560
Α	On site	Pond	1919	1:10560





ID	Location	Land Use	Year of mapping	Mapping scale
Α	On site	Pond	1923	1:10560
Α	On site	Pond	1954	1:10560
Α	On site	Pond	1973	1:10000
Α	2m N	Pond	1886	1:10560
А	3m N	Ponds	1880	1:10560
3	14m SW	Ponds	1973	1:10000
Α	29m N	Pond	1901	1:10560
Α	29m N	Pond	1919	1:10560
А	32m N	Pond	1923	1:10560
А	33m N	Pond	1954	1:10560
Α	33m N	Pond	1973	1:10000
Α	36m N	Pond	1886	1:10560
В	105m S	Reservoir	1954	1:10560
В	108m S	Reservoir	1923	1:10560
В	108m S	Reservoir	1901	1:10560
В	108m S	Reservoir	1923	1:10560
В	112m S	Reservoir	1923	1:10560
С	142m S	Unspecified Quarry	1880	1:10560
С	143m S	Unspecified Old Quarry	1954	1:10560
С	144m S	Unspecified Quarry	1886	1:10560
С	147m S	Unspecified Old Quarry	1923	1:10560
С	149m S	Unspecified Old Quarry	1923	1:10560
С	149m S	Unspecified Old Quarry	1923	1:10560
D	163m S	Unspecified Quarry	1886	1:10560
D	163m S	Unspecified Ground Workings	1880	1:10560
D	167m S	Unspecified Ground Workings	1923	1:10560
D	167m S	Unspecified Ground Workings	1901	1:10560
D	194m S	Unspecified Pit	1954	1:10560







ID	Location	Land Use	Year of mapping	Mapping scale
D	210m S	Unspecified Quarry	1880	1:10560
D	212m S	Unspecified Quarry	1880	1:10560
D	224m S	Unspecified Old Quarries	1901	1:10560
D	234m S	Unspecified Old Quarries	1901	1:10560
D	239m S	Unspecified Old Quarry	1923	1:10560
D	239m S	Unspecified Old Quarry	1923	1:10560
D	241m S	Unspecified Old Quarry	1954	1:10560
D	241m S	Unspecified Quarry	1973	1:10000
Е	246m NE	Unspecified Pit	1886	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m 0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m 0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m 6

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, ground workings and natural cavities map on page 98





ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
2	On site	Not available	Vein Mineral	В	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
6	673m N	Not available	Vein Mineral	В	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	716m N	Not available	Vein Mineral	В	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
8	722m NE	Not available	Vein Mineral	В	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	806m NE	Not available	Vein Mineral	В	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m 0

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

 ${\it This\ data\ is\ sourced\ from\ Stantec\ UK\ Ltd.}$

18.8 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.



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18.9 Coal mining

Records on site 0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site 0

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

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

18.11 Gypsum areas

Records on site 0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site 0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

Records on site

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

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





19 Radon



19.1 Radon

Records on site 4

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 104

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
On site	Between 5% and 10%	Basic
On site	Between 3% and 5%	Basic

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





20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m 15

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 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 - 25 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 - 25 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 - 25 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 - 25 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 - 25 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	50 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
6m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
6m SE	15 - 25 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
17m N	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 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
47m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m 0

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

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m 0

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

This data is sourced from the British Geological Survey.





21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m 0

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







This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m 0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m 0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m 0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m 0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m 0

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



(109)



This data is sourced from HS2 ltd.





Data providers

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

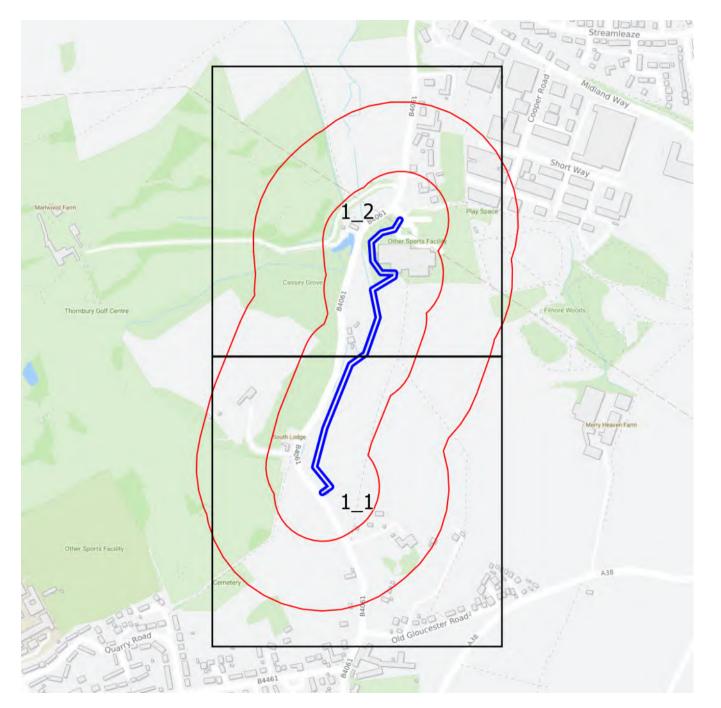
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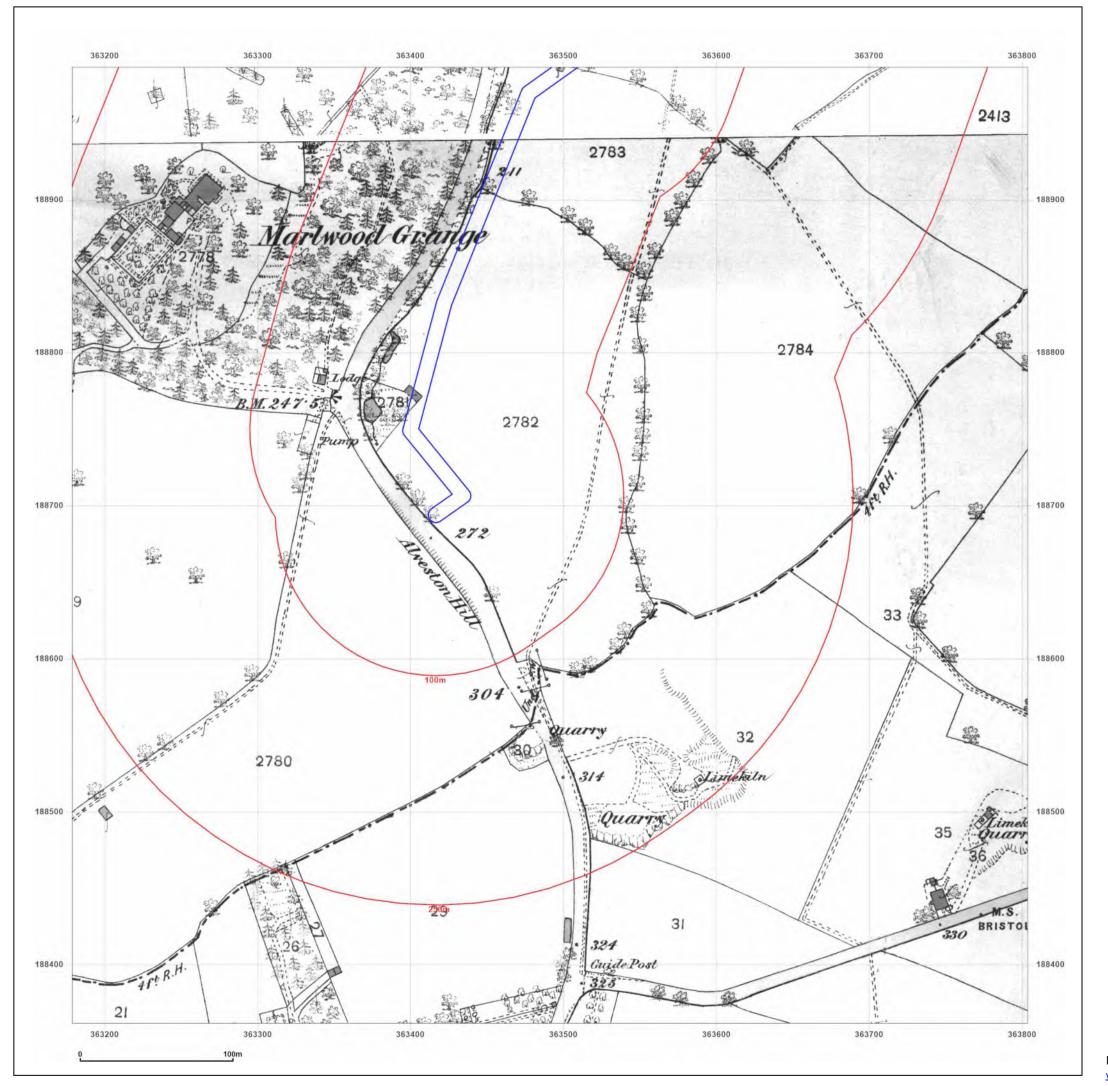
Appendix C. Groundsure Historical Mapping



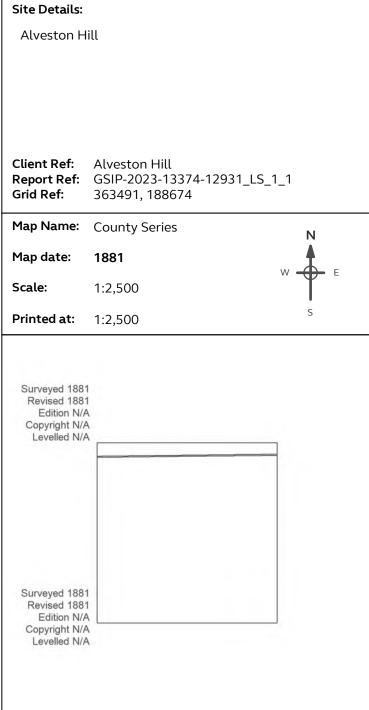


1:2,500 Scale Grid Index







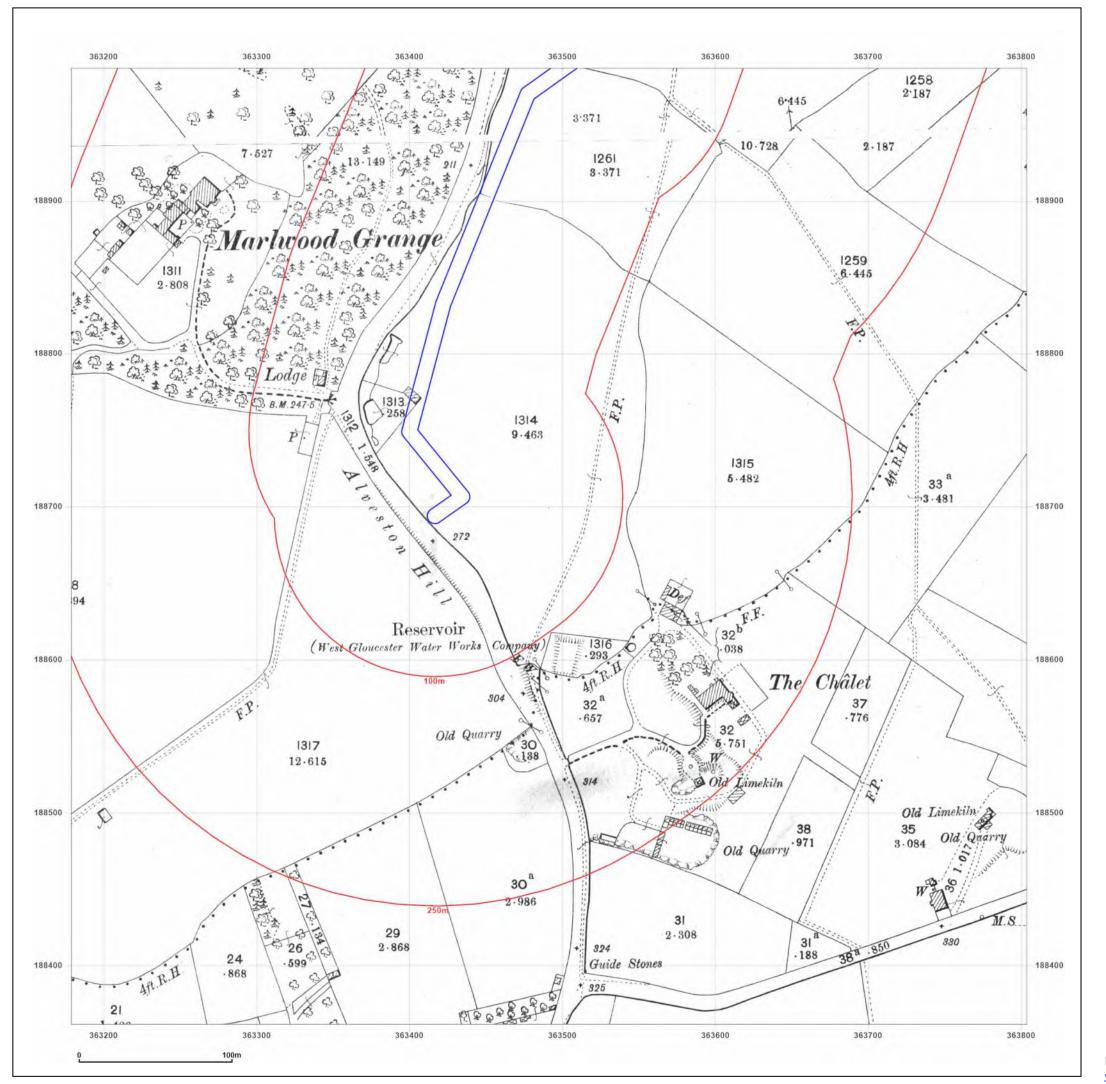




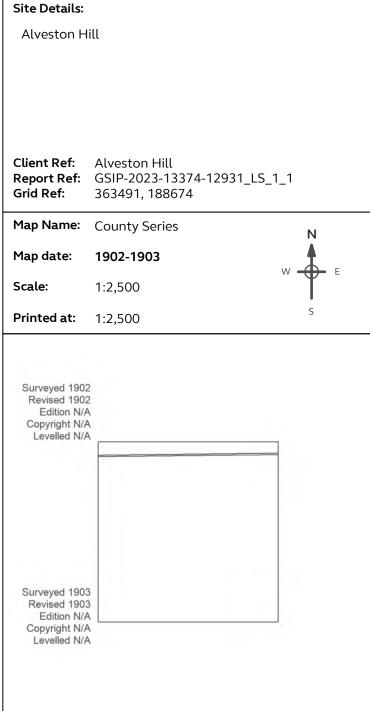
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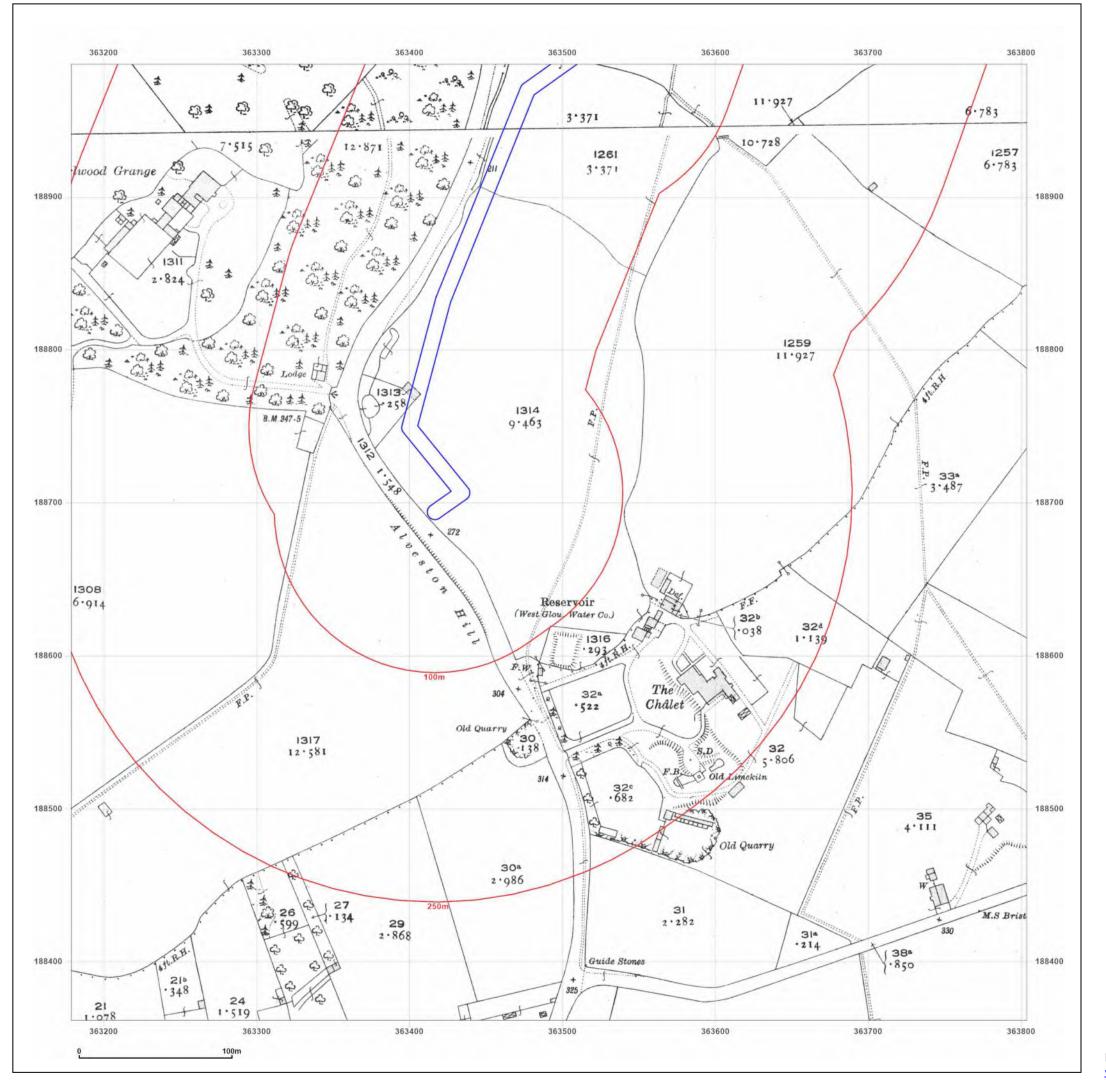




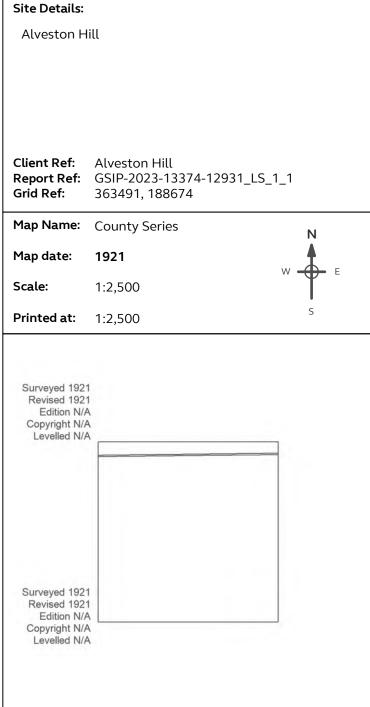
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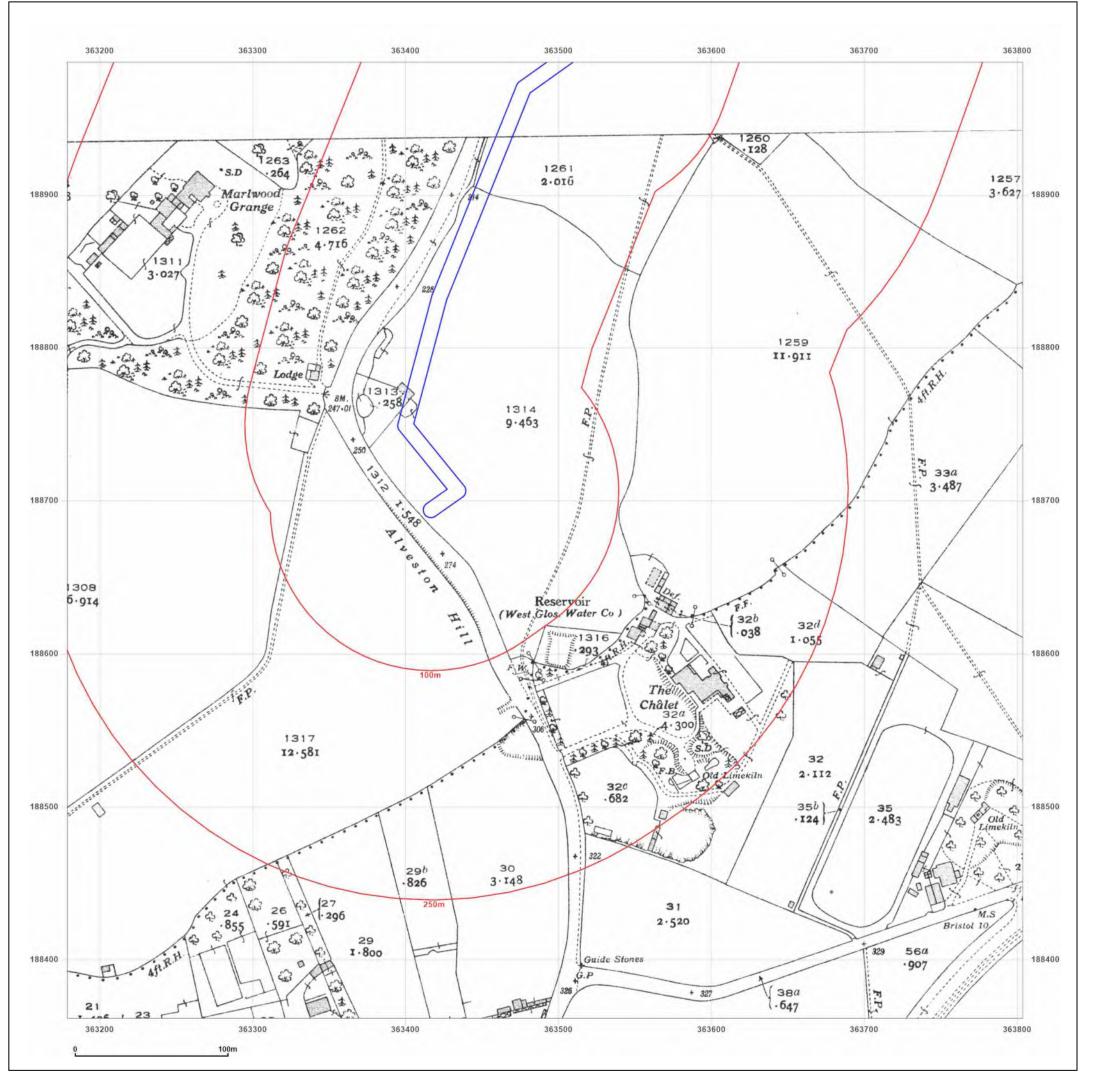




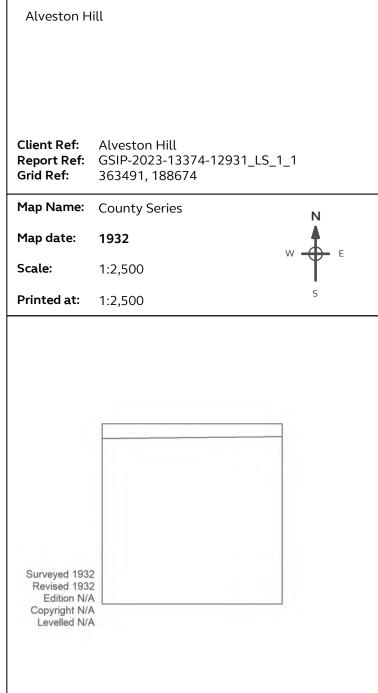
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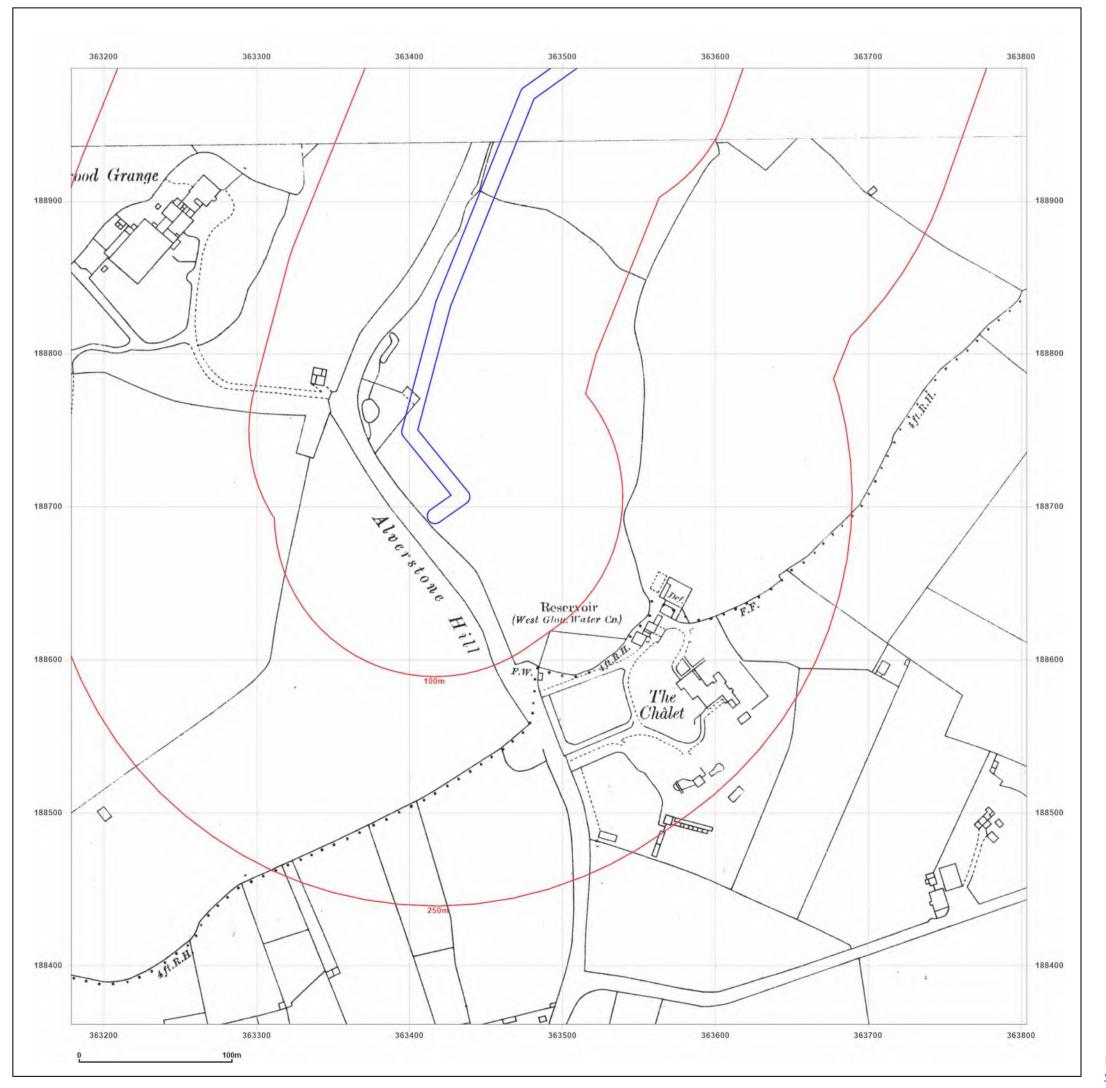


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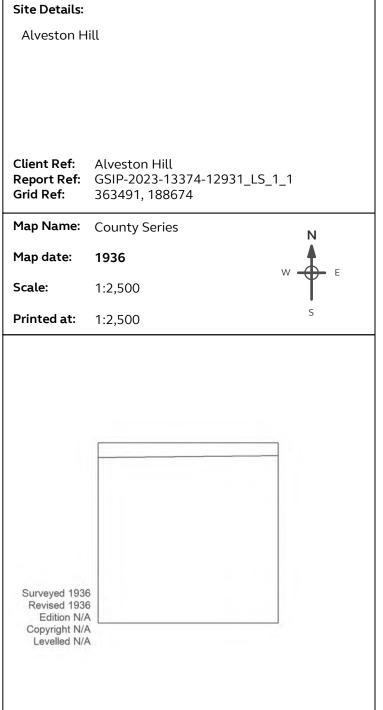
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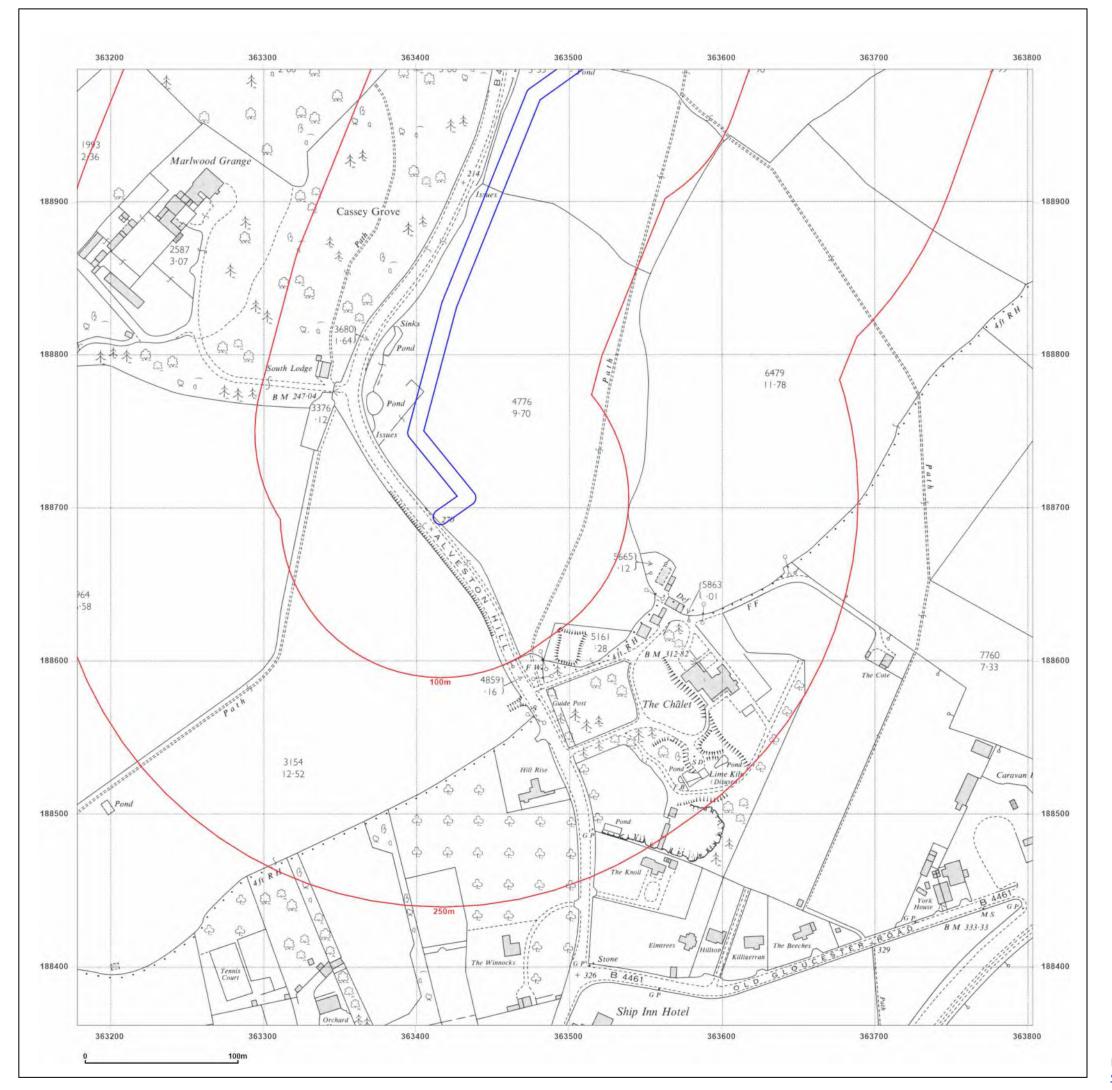




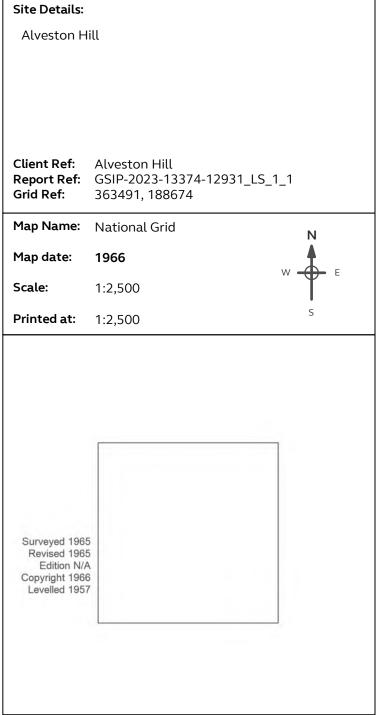
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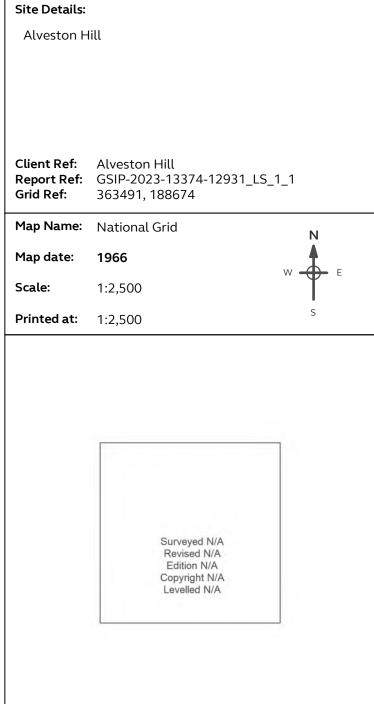
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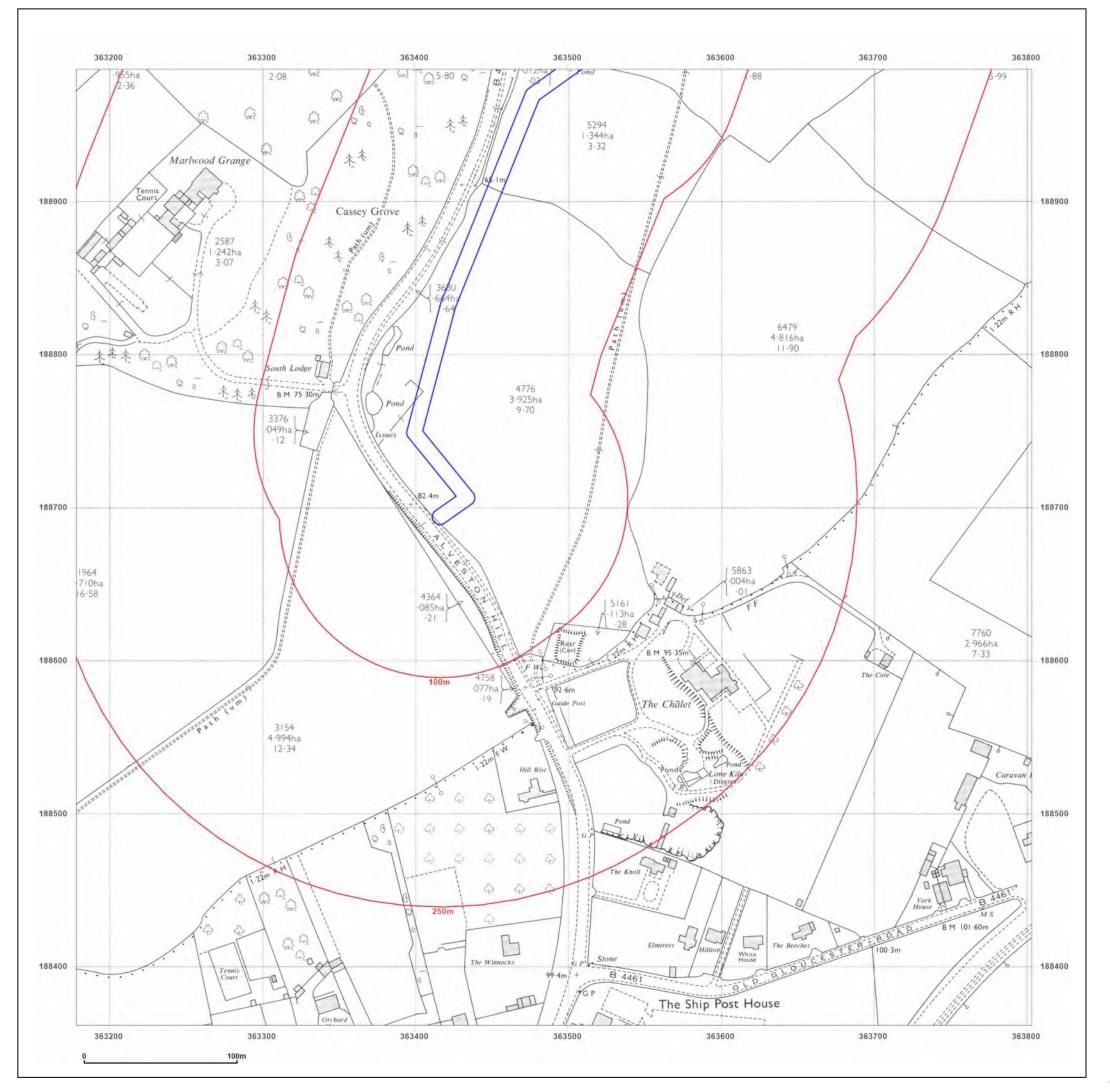




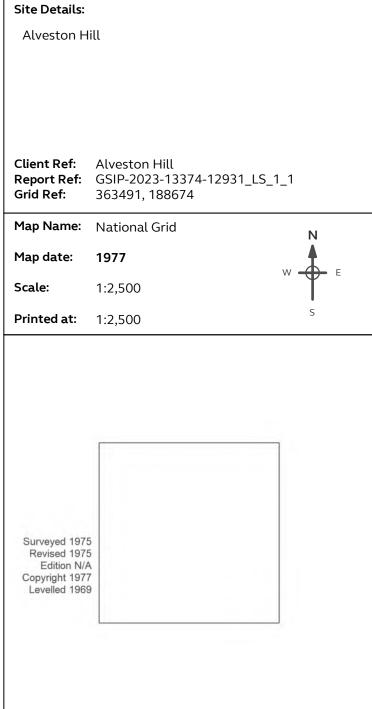
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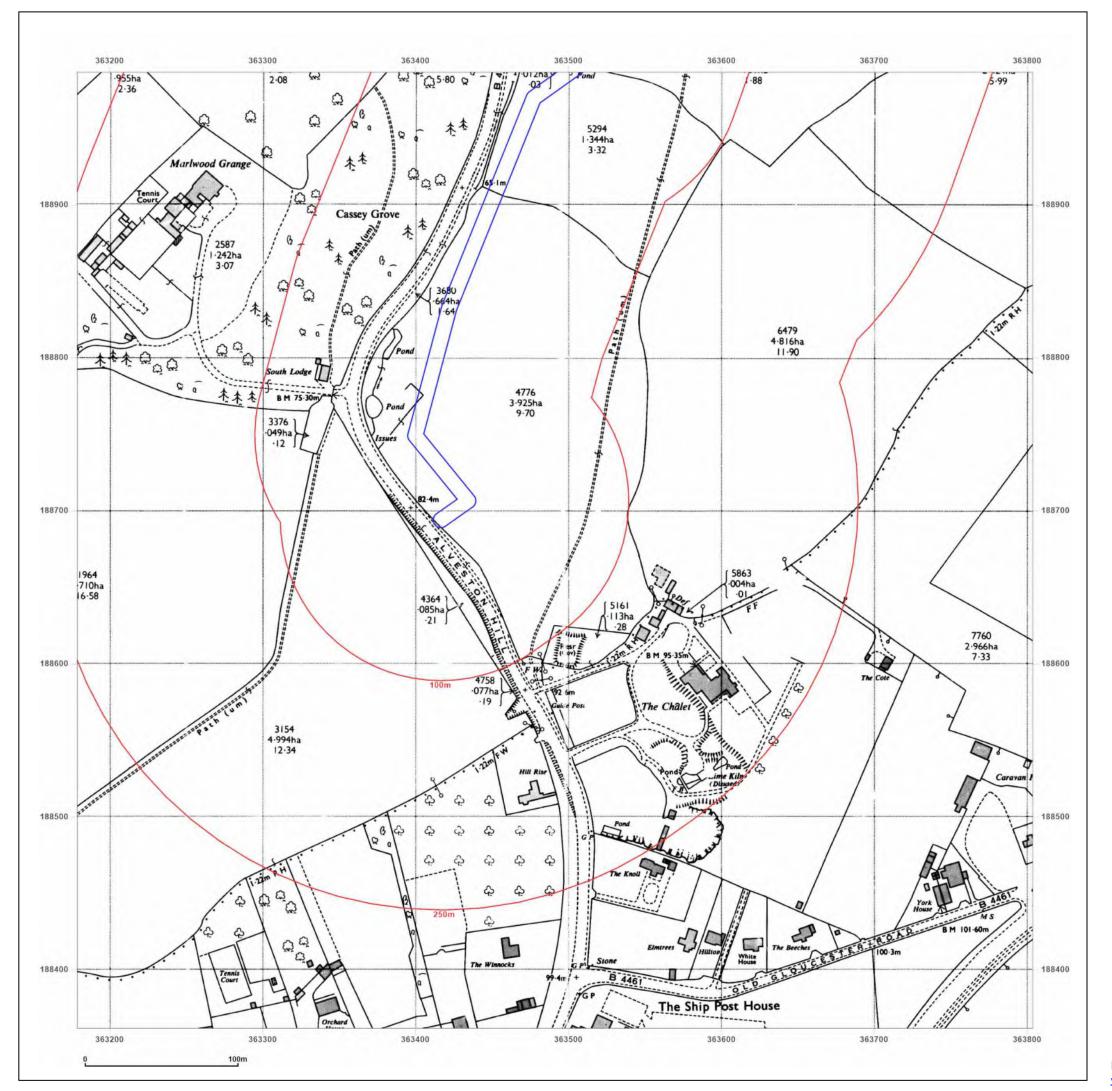




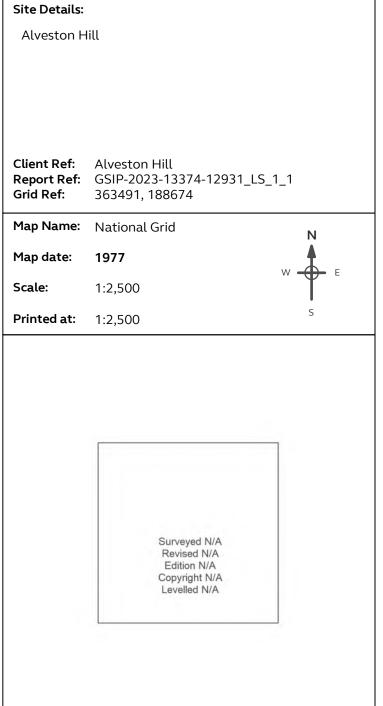
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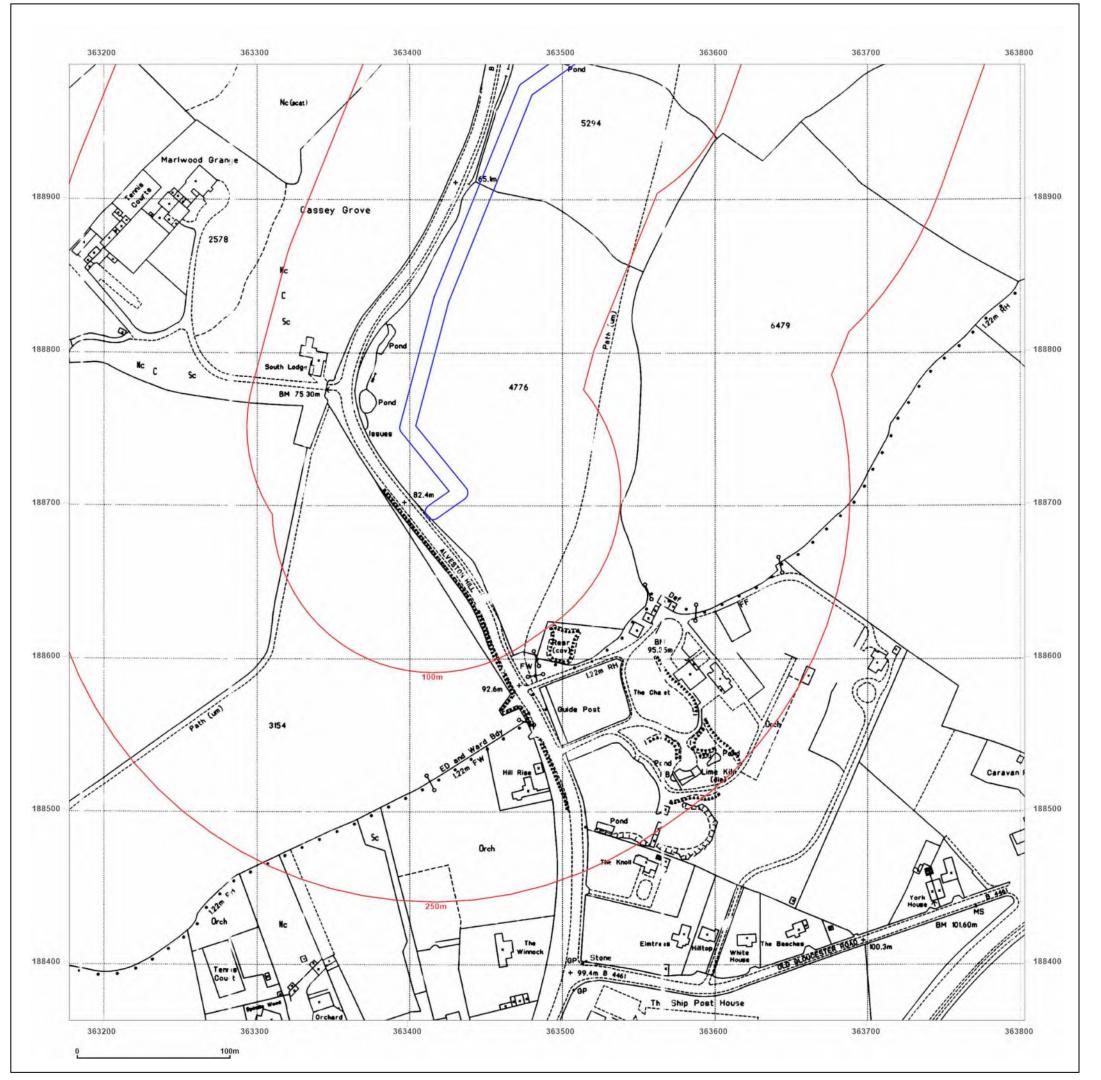




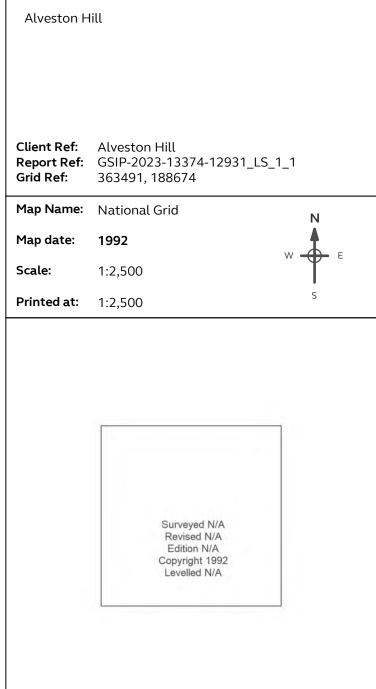
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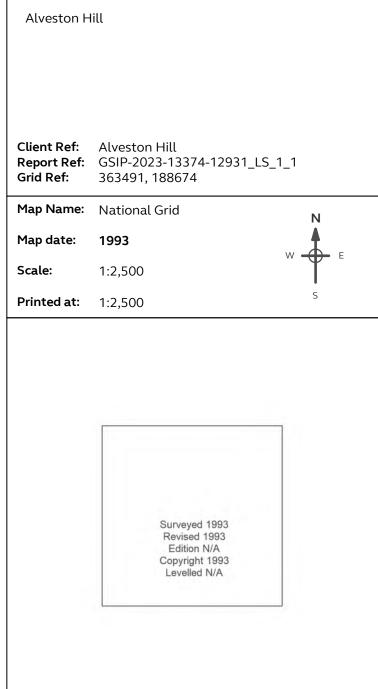
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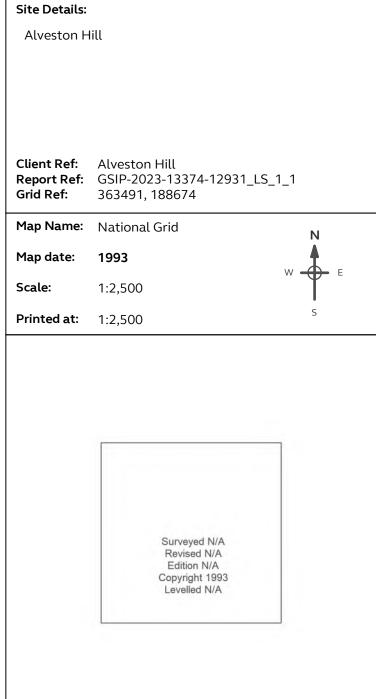
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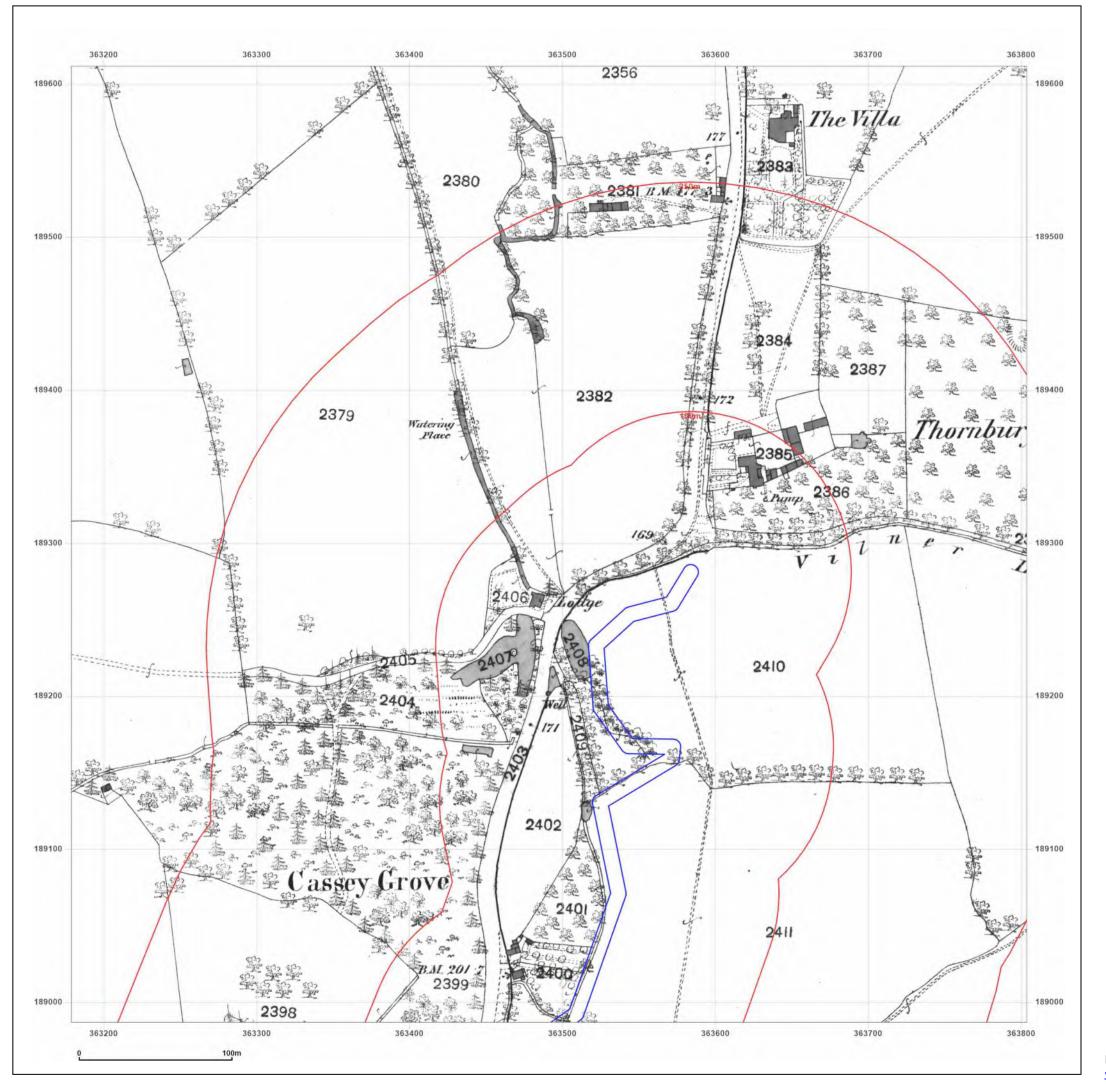




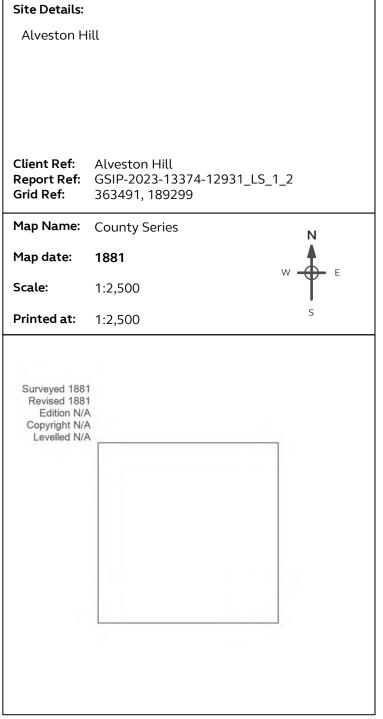
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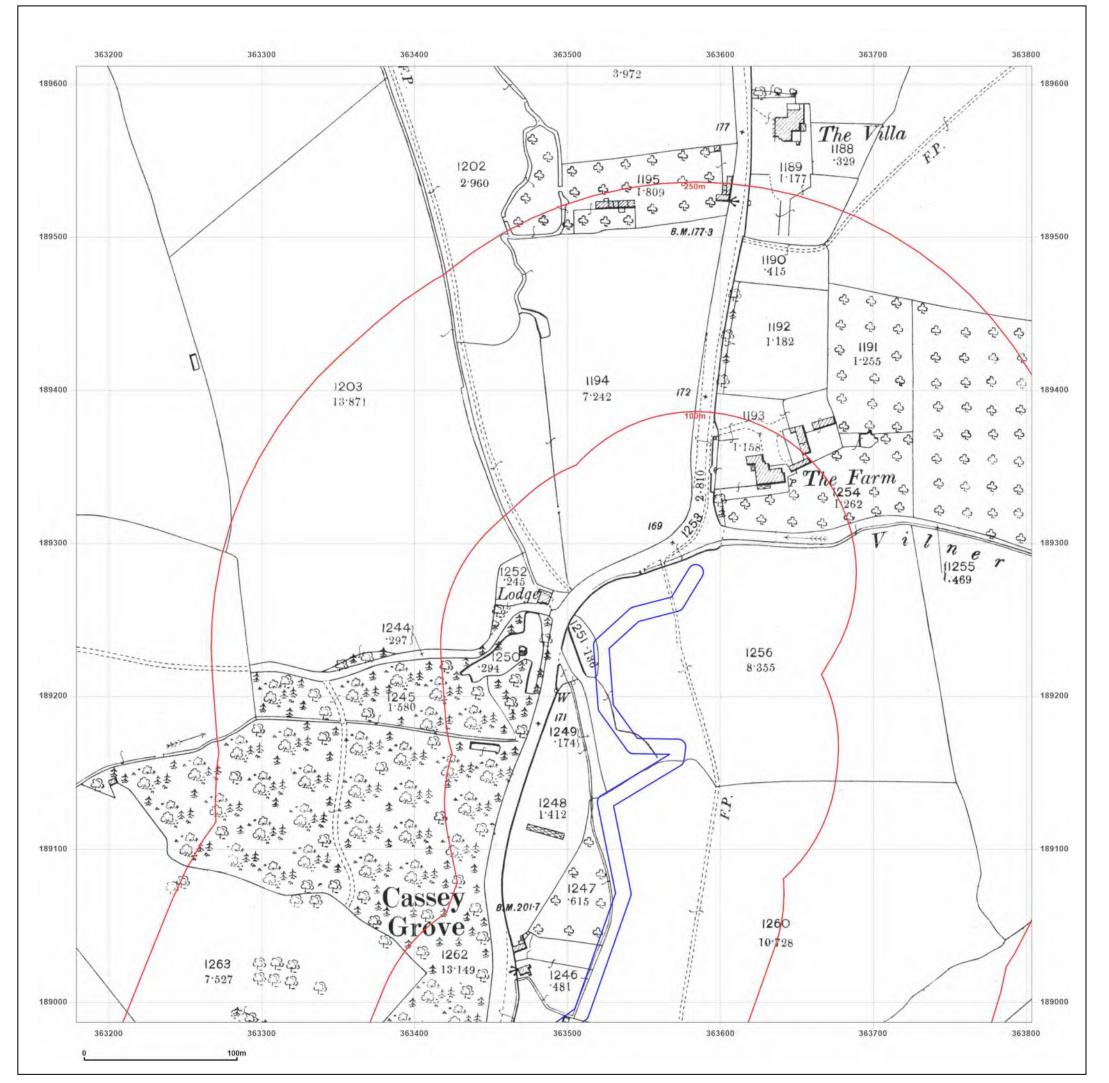




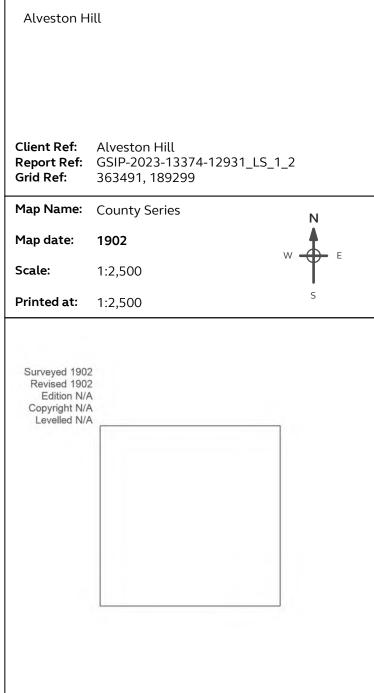
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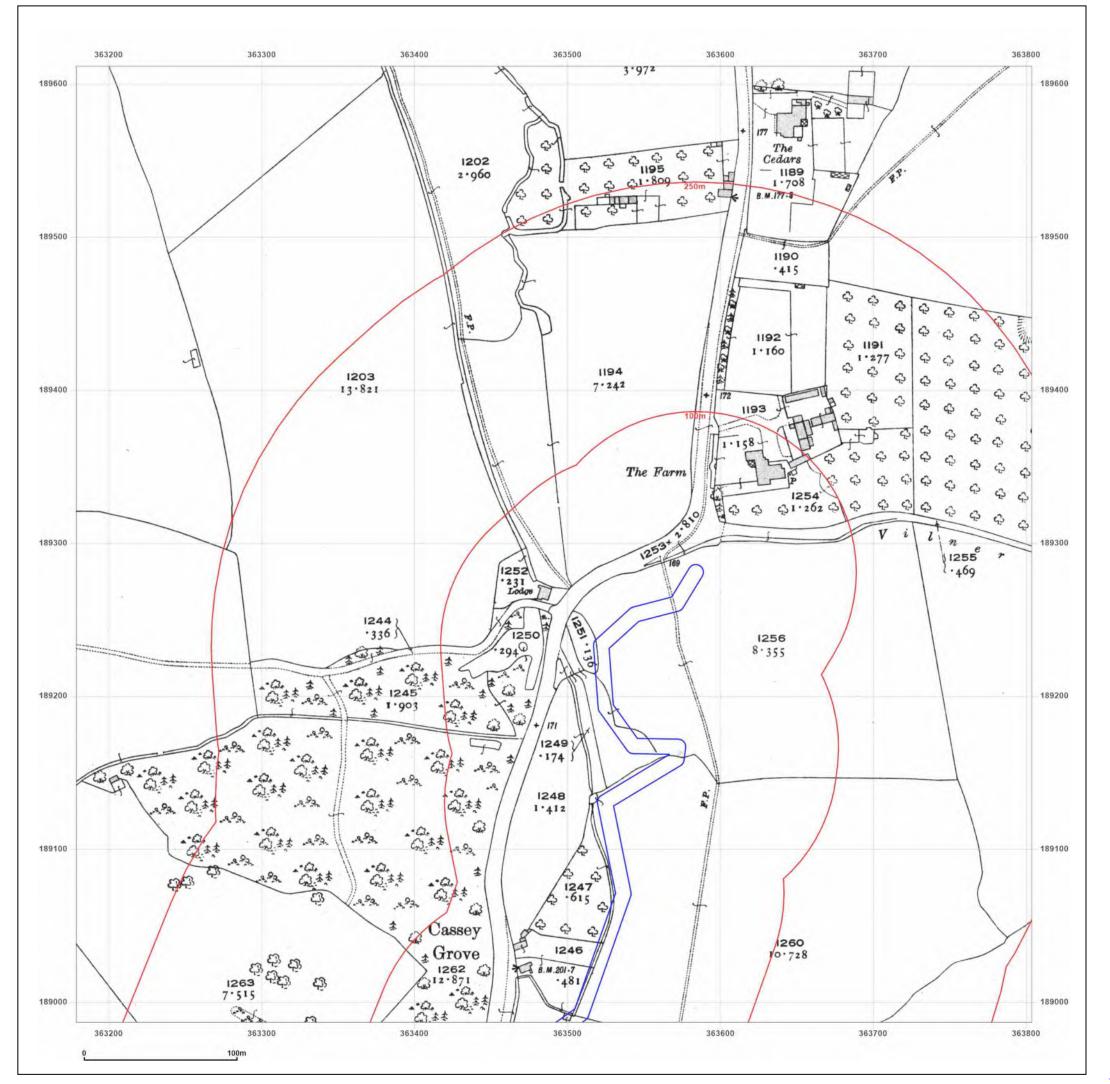


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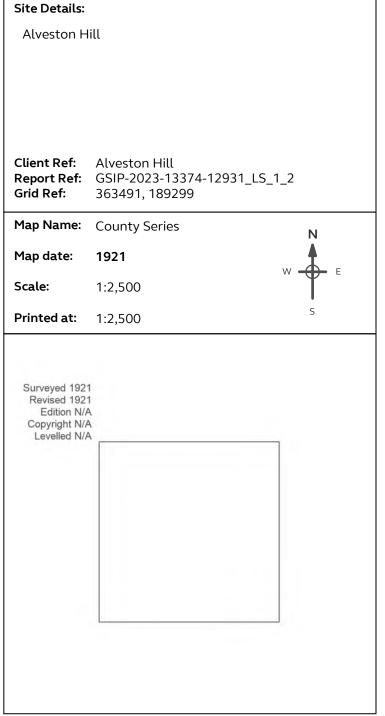
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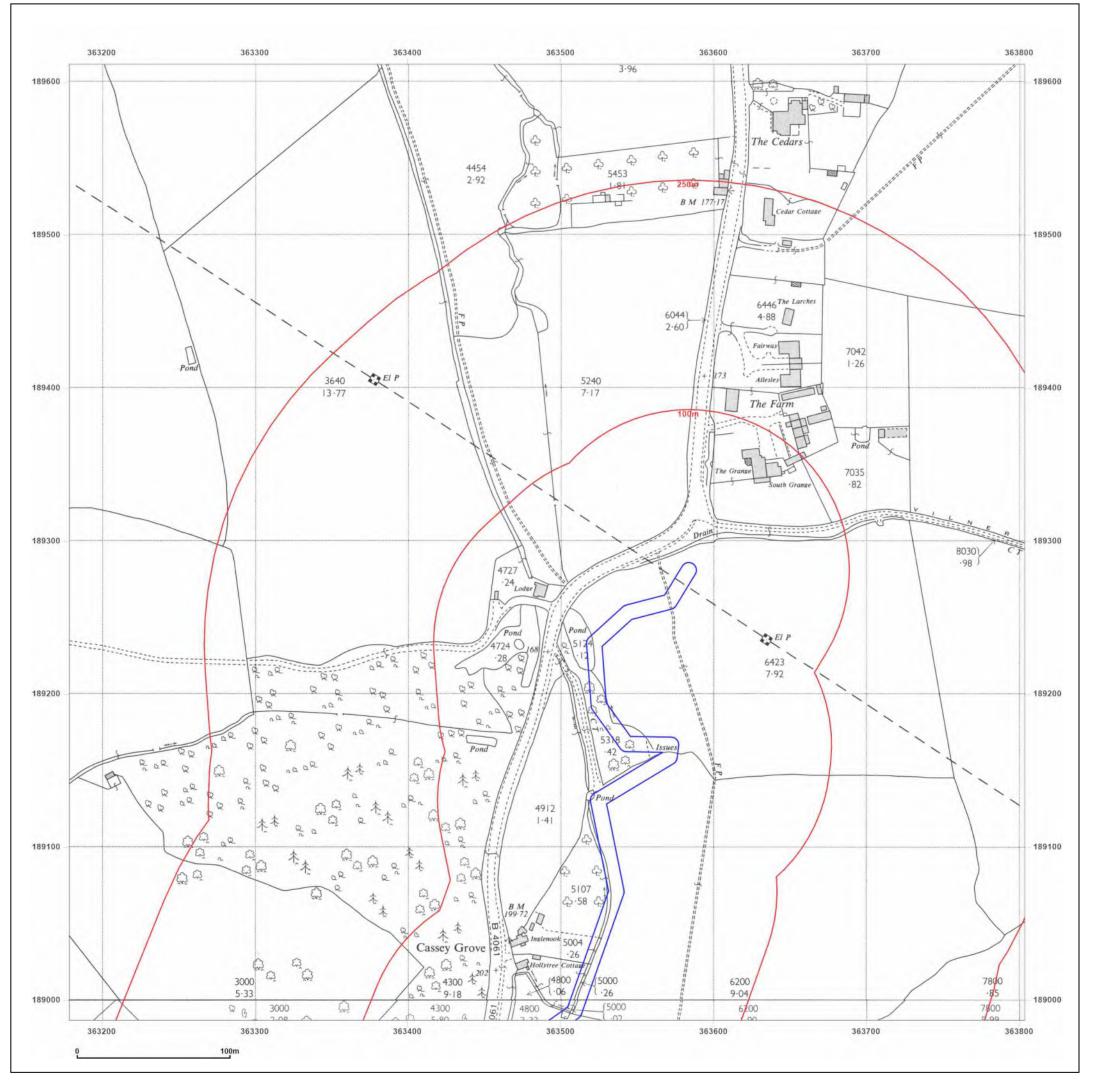




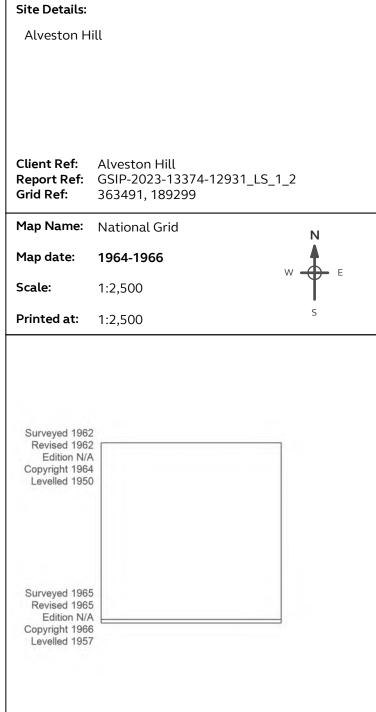
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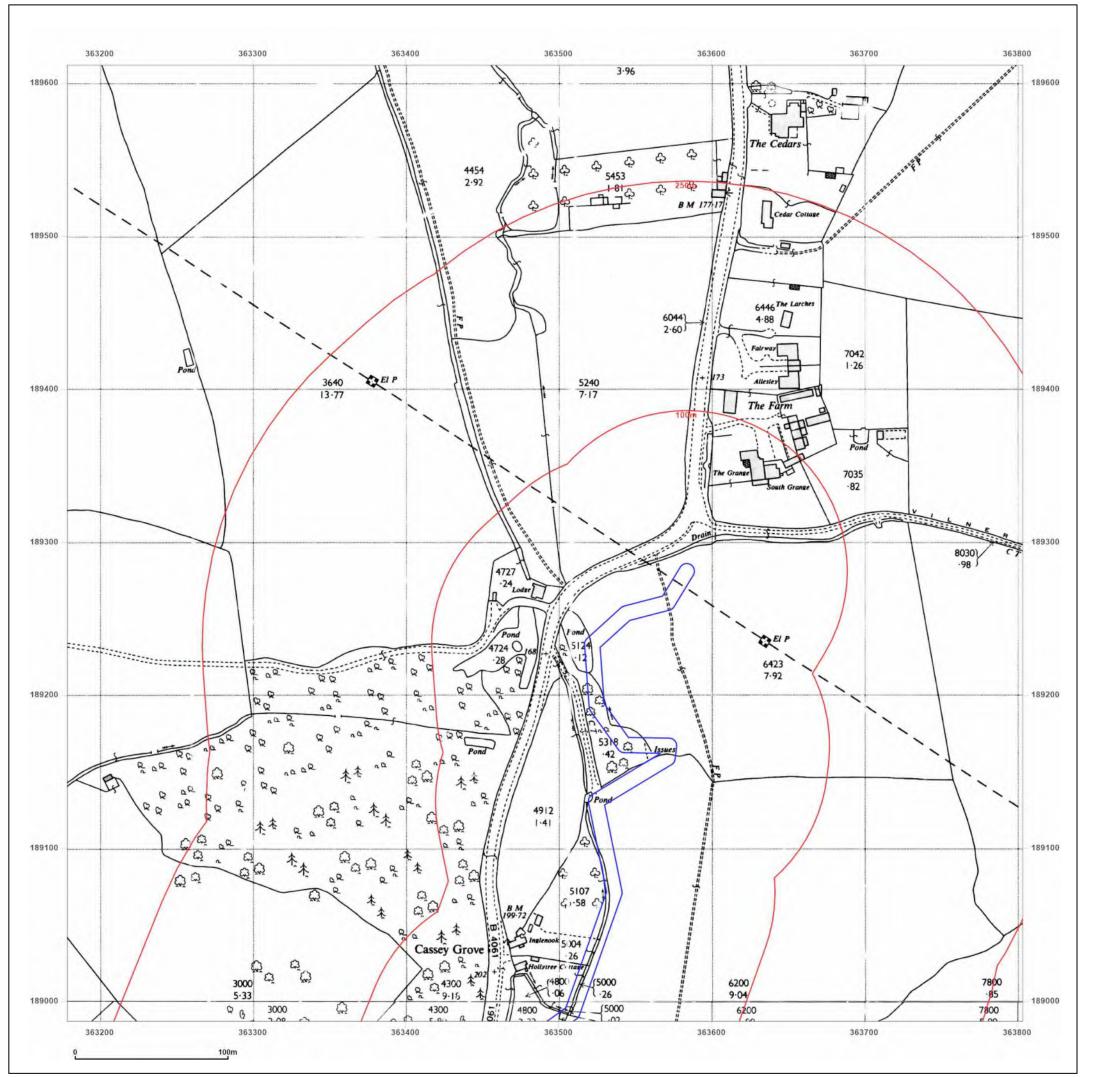




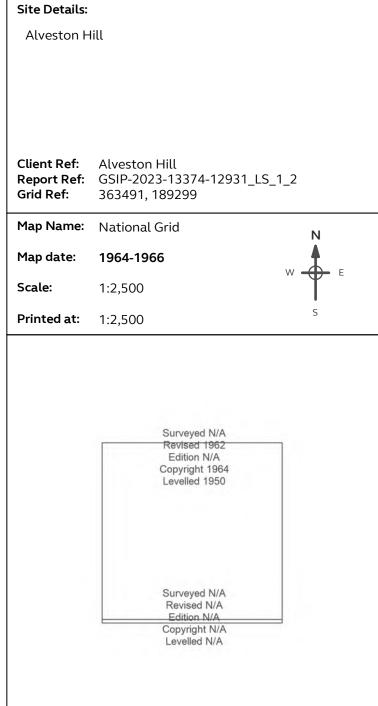
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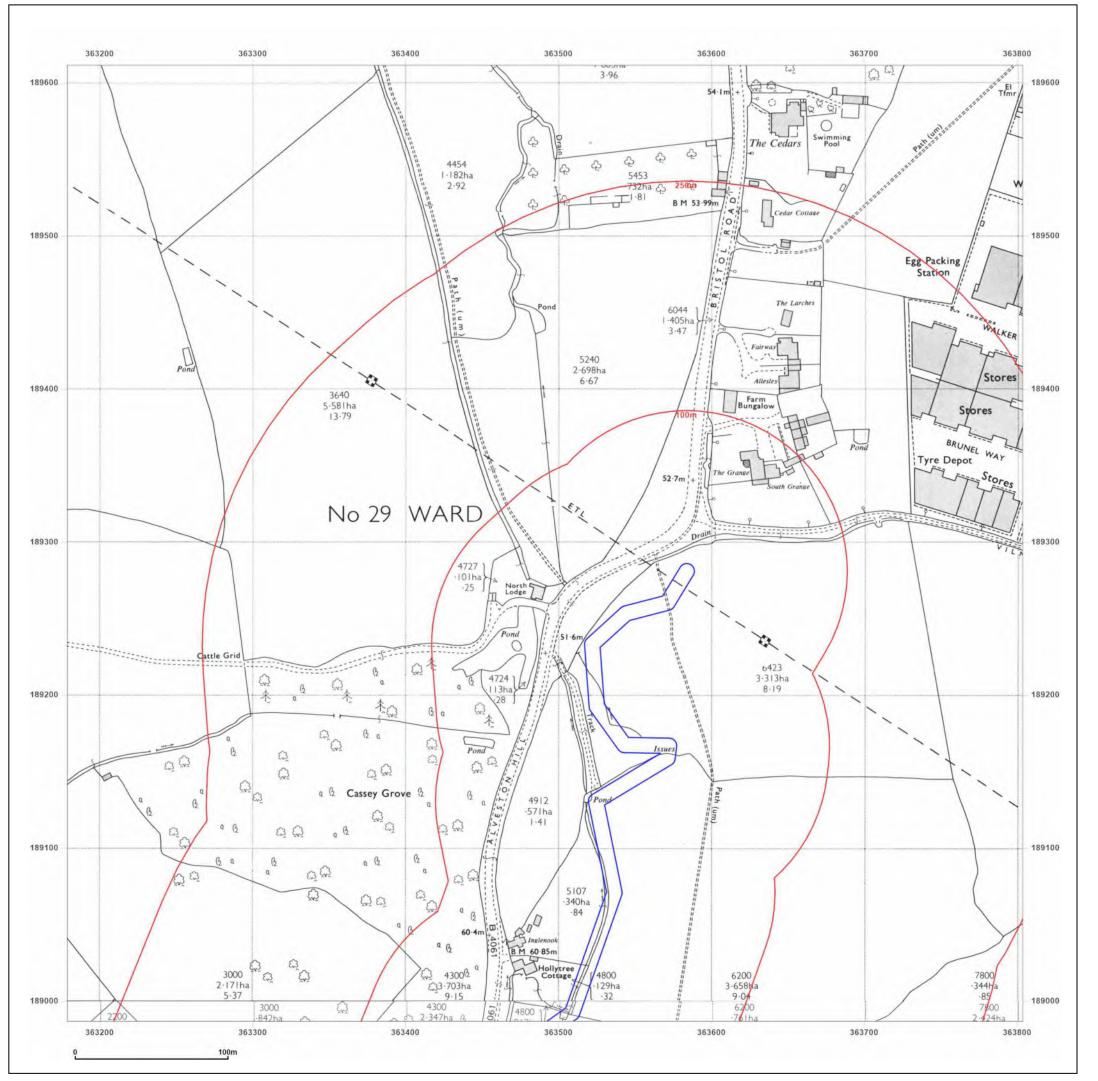




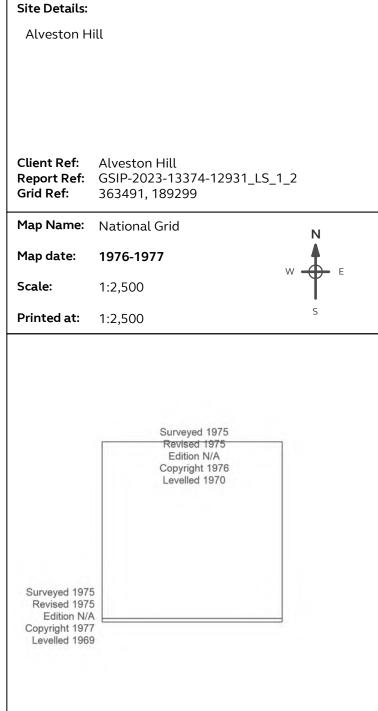
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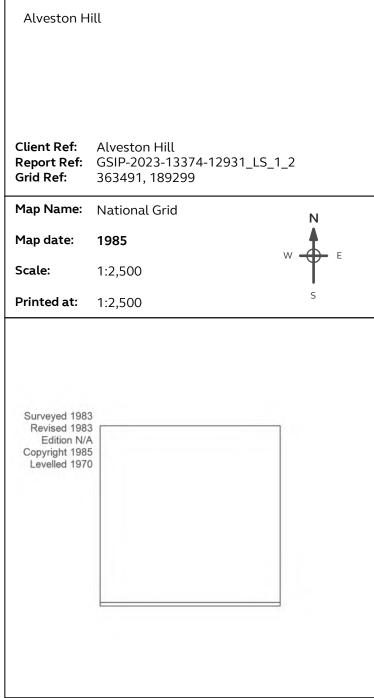
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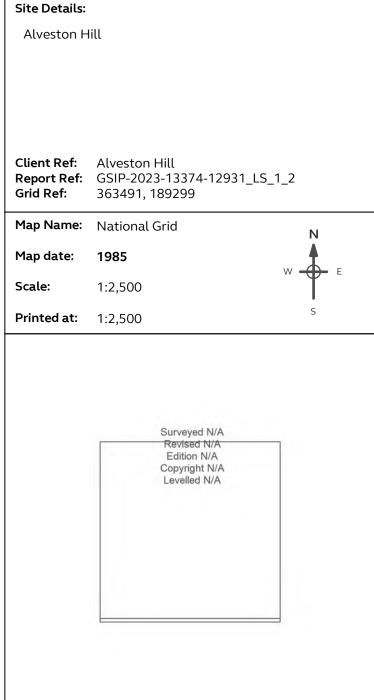
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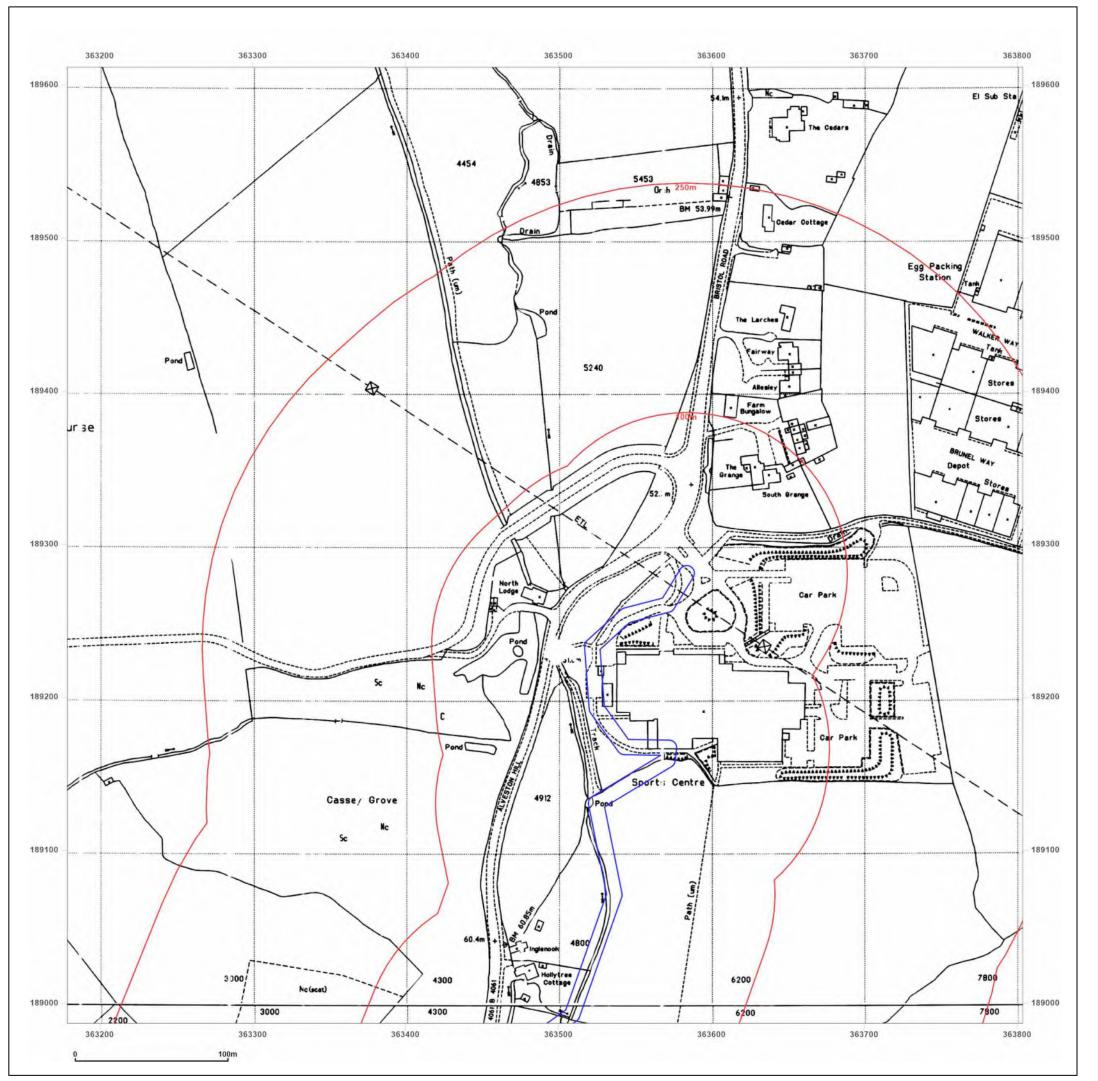




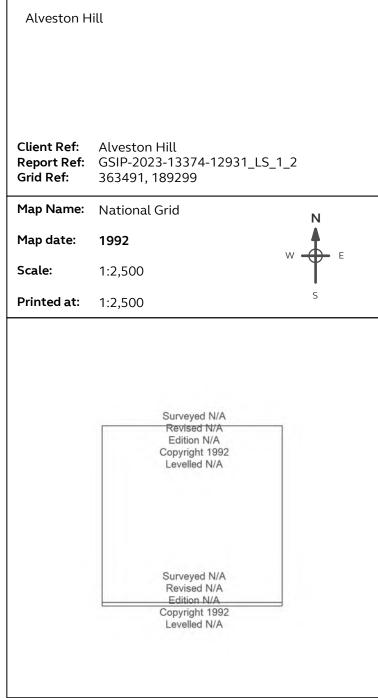
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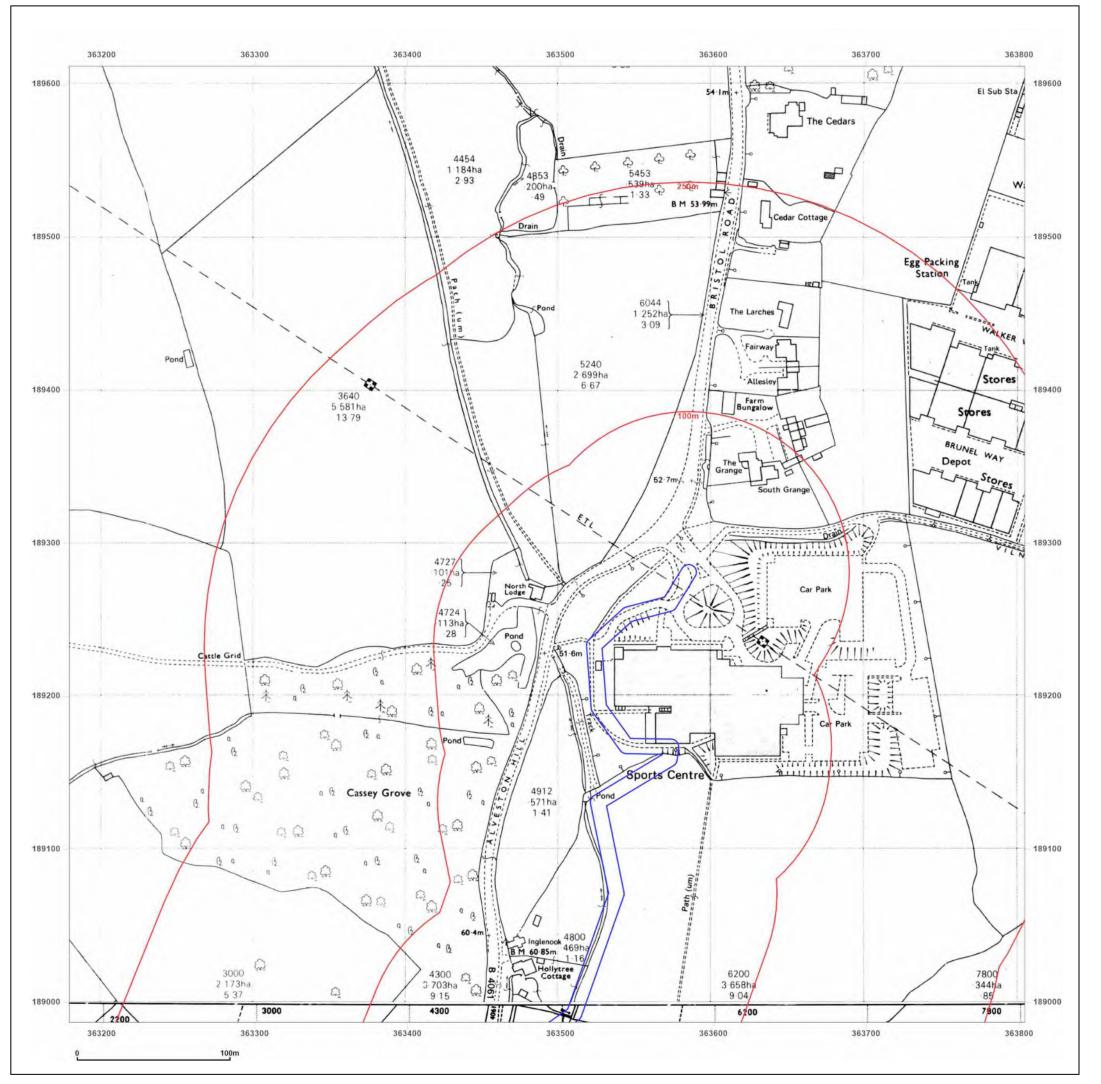


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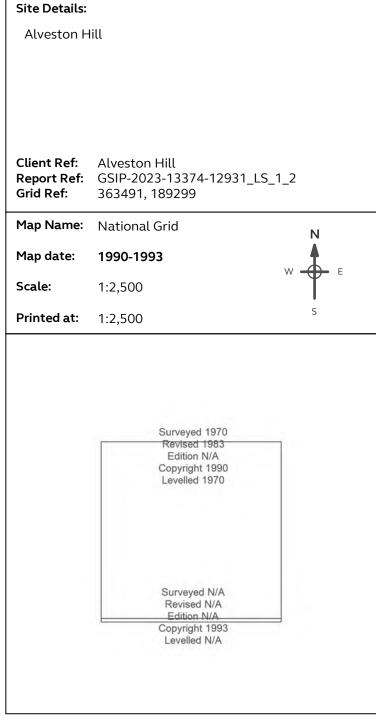
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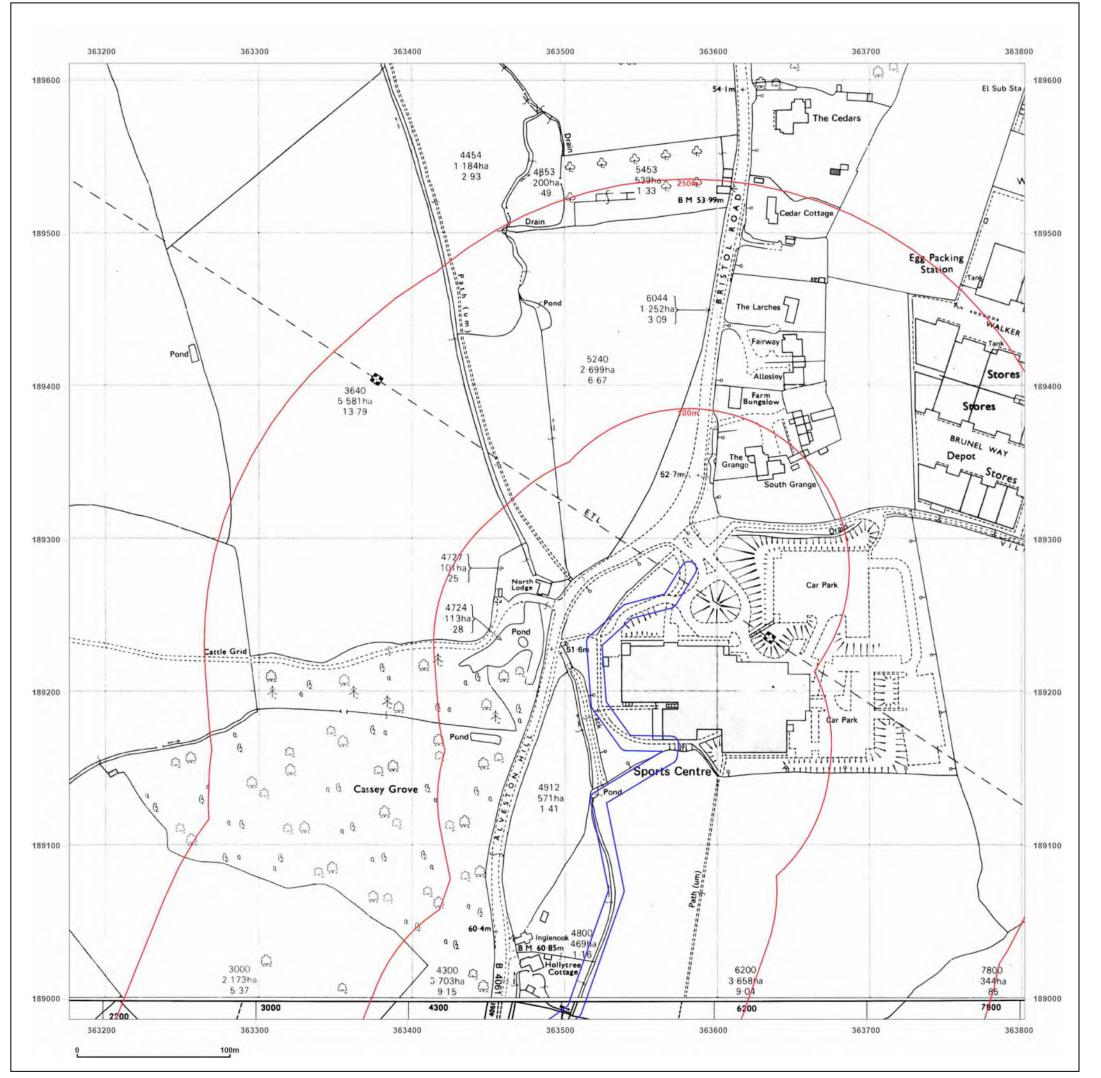




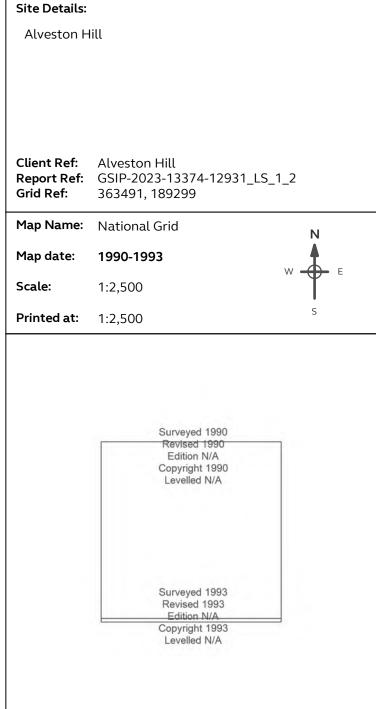
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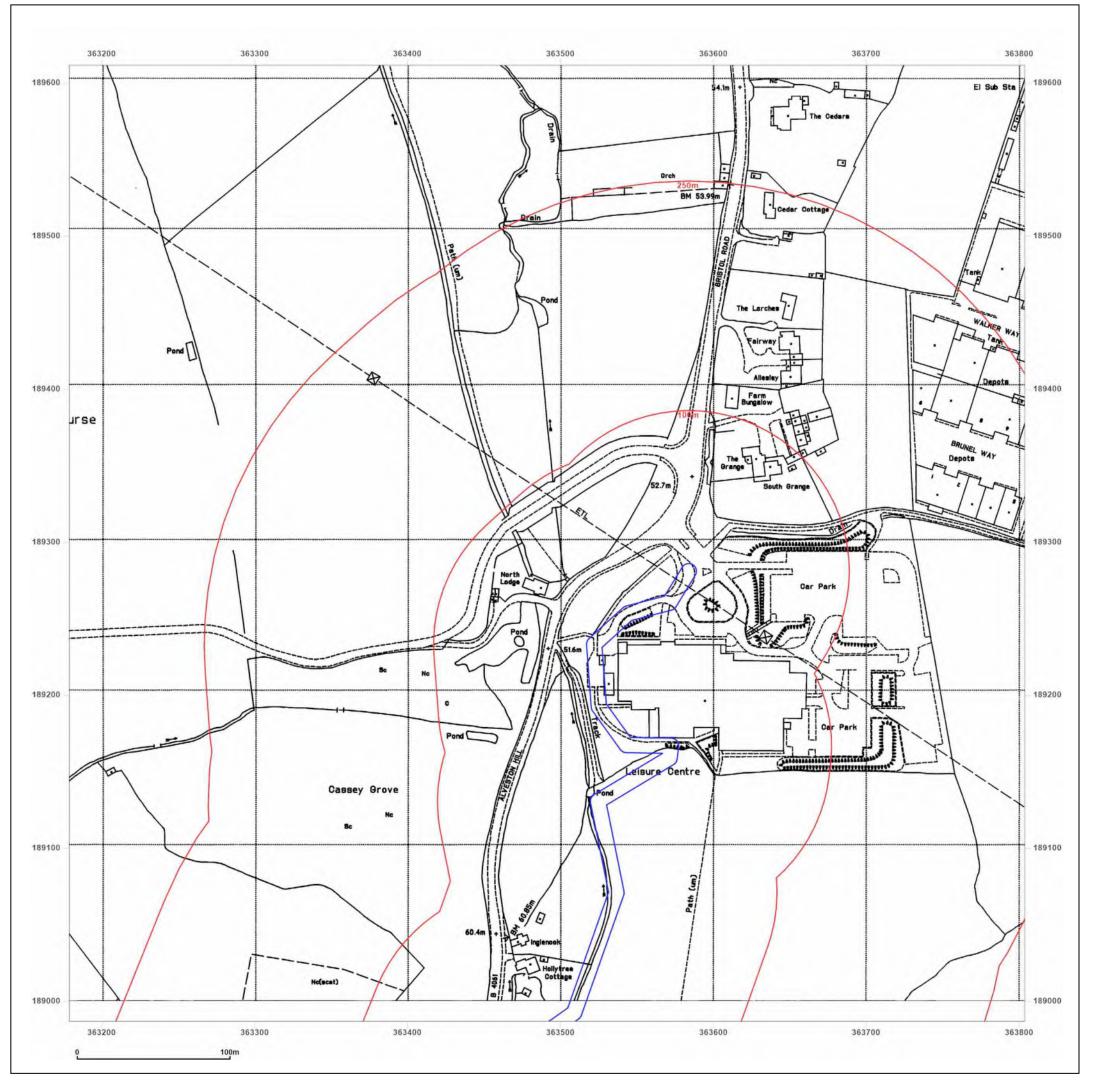




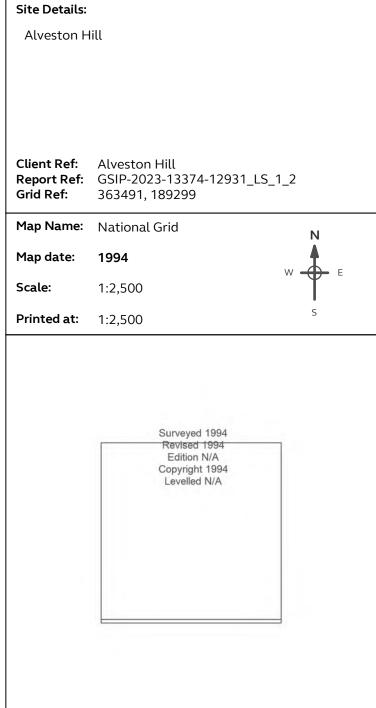
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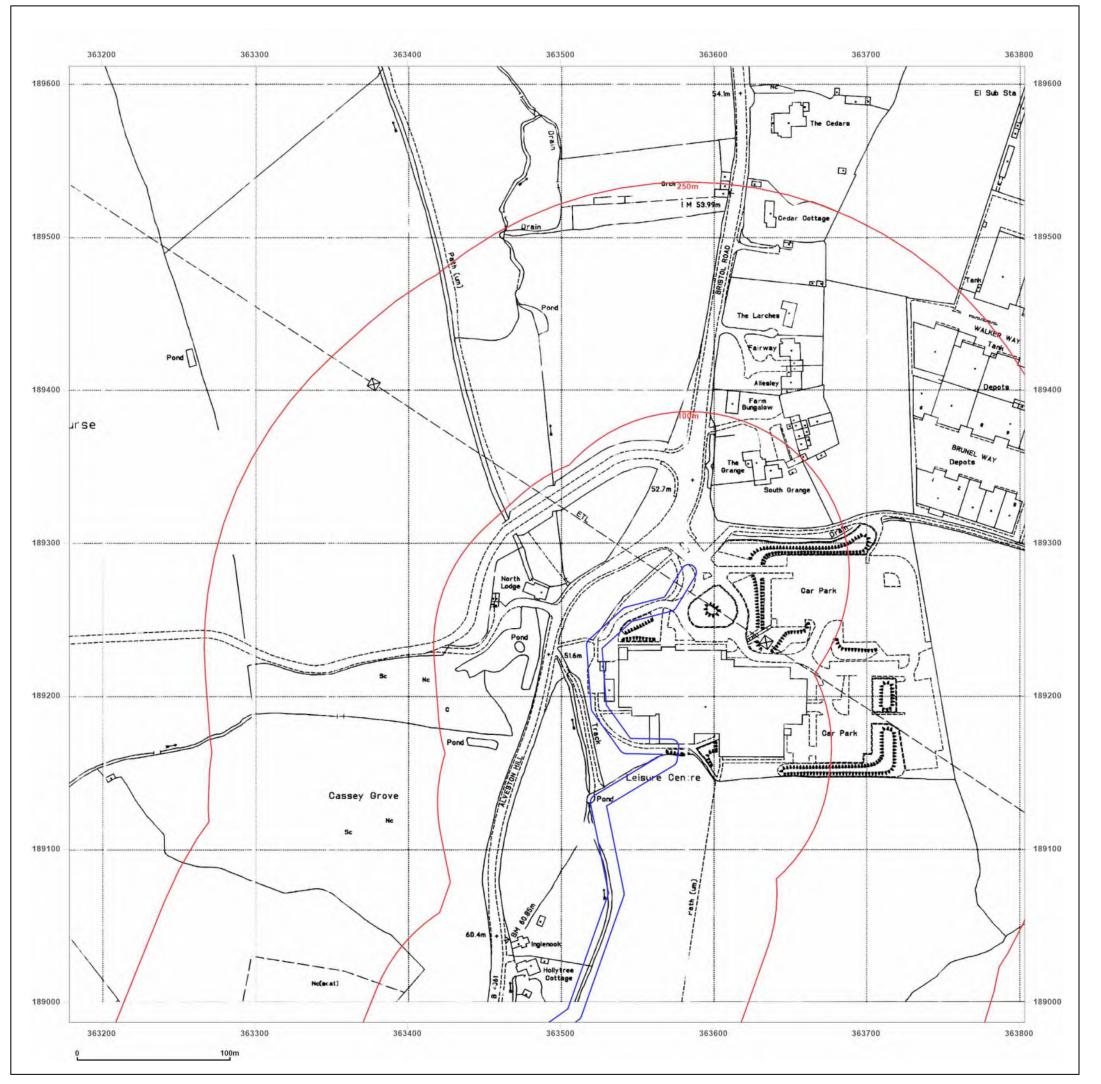




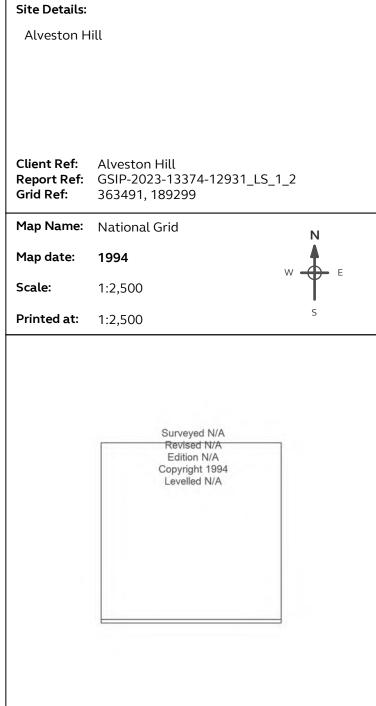
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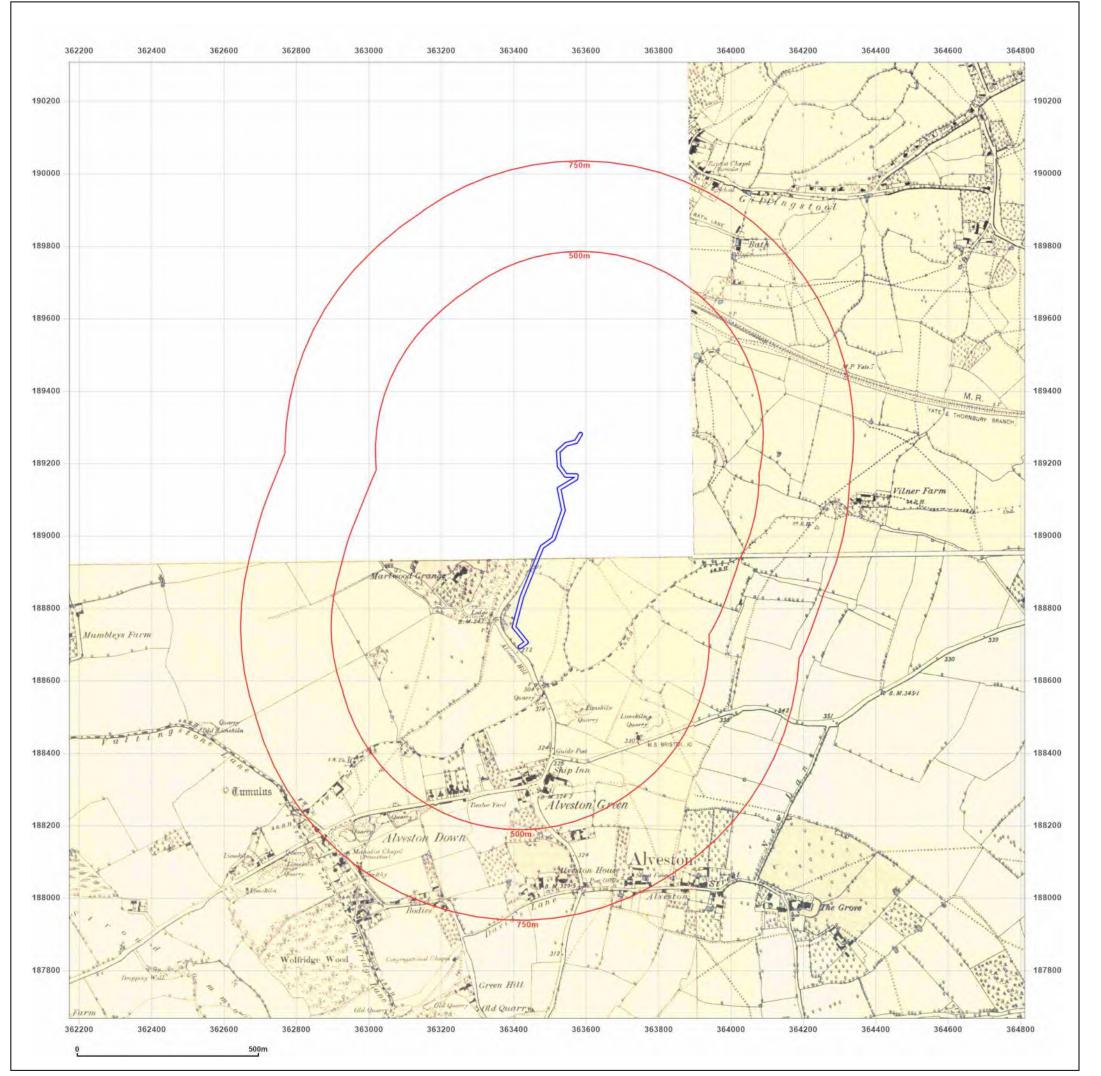




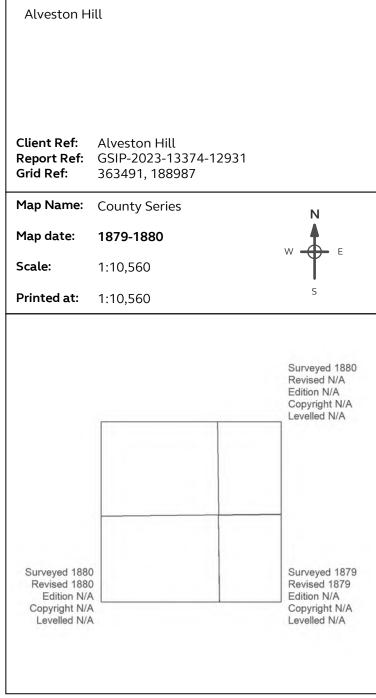
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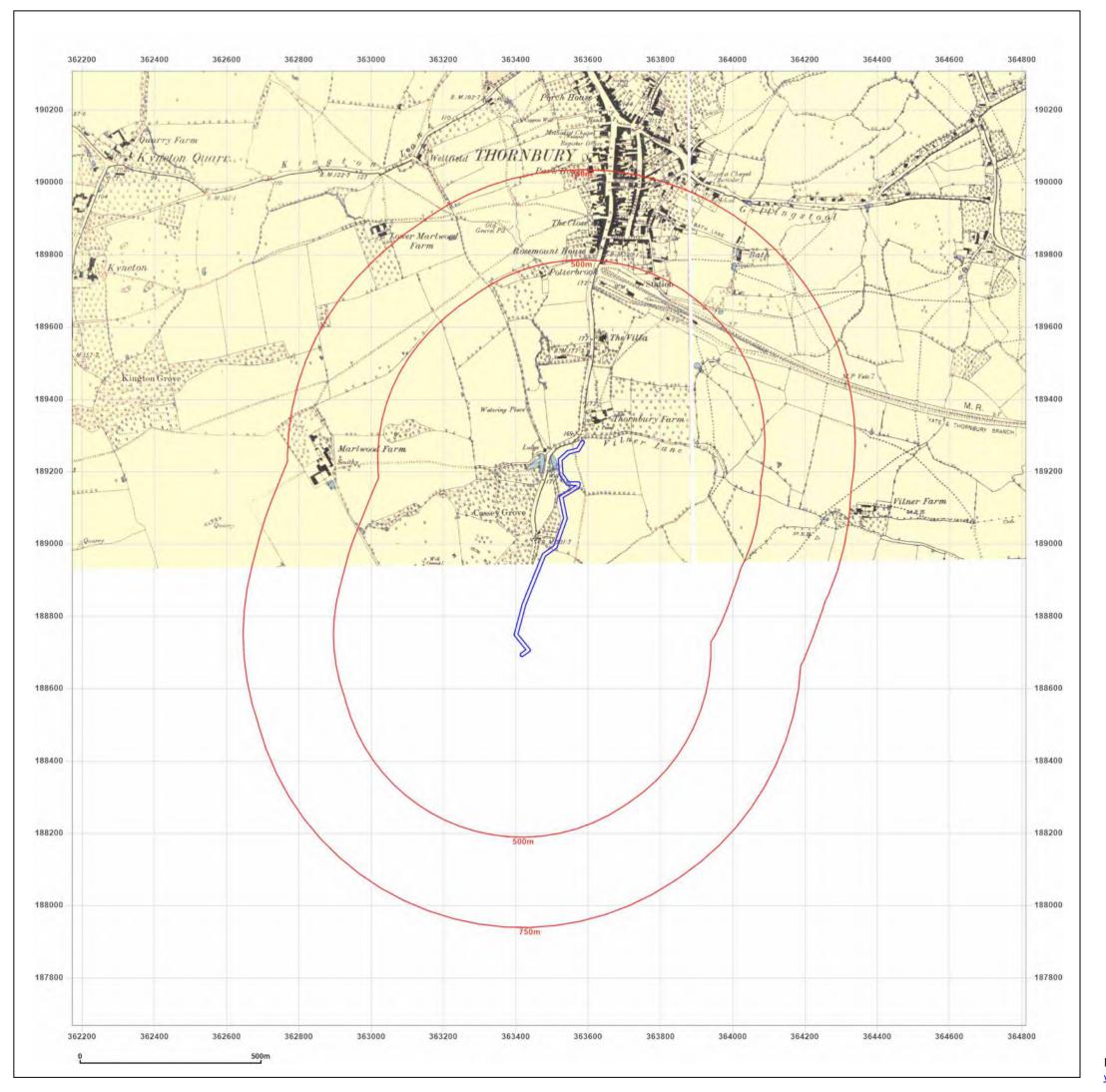


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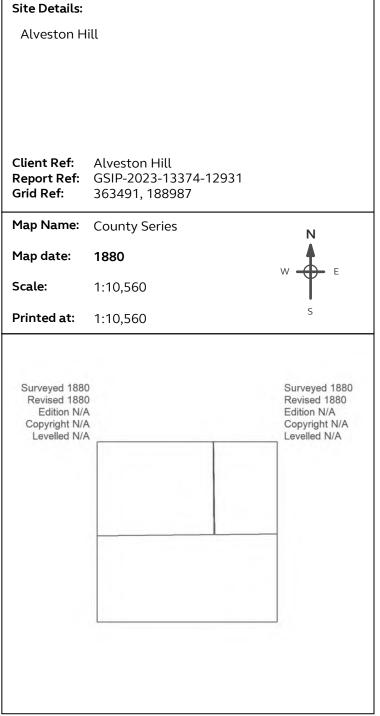
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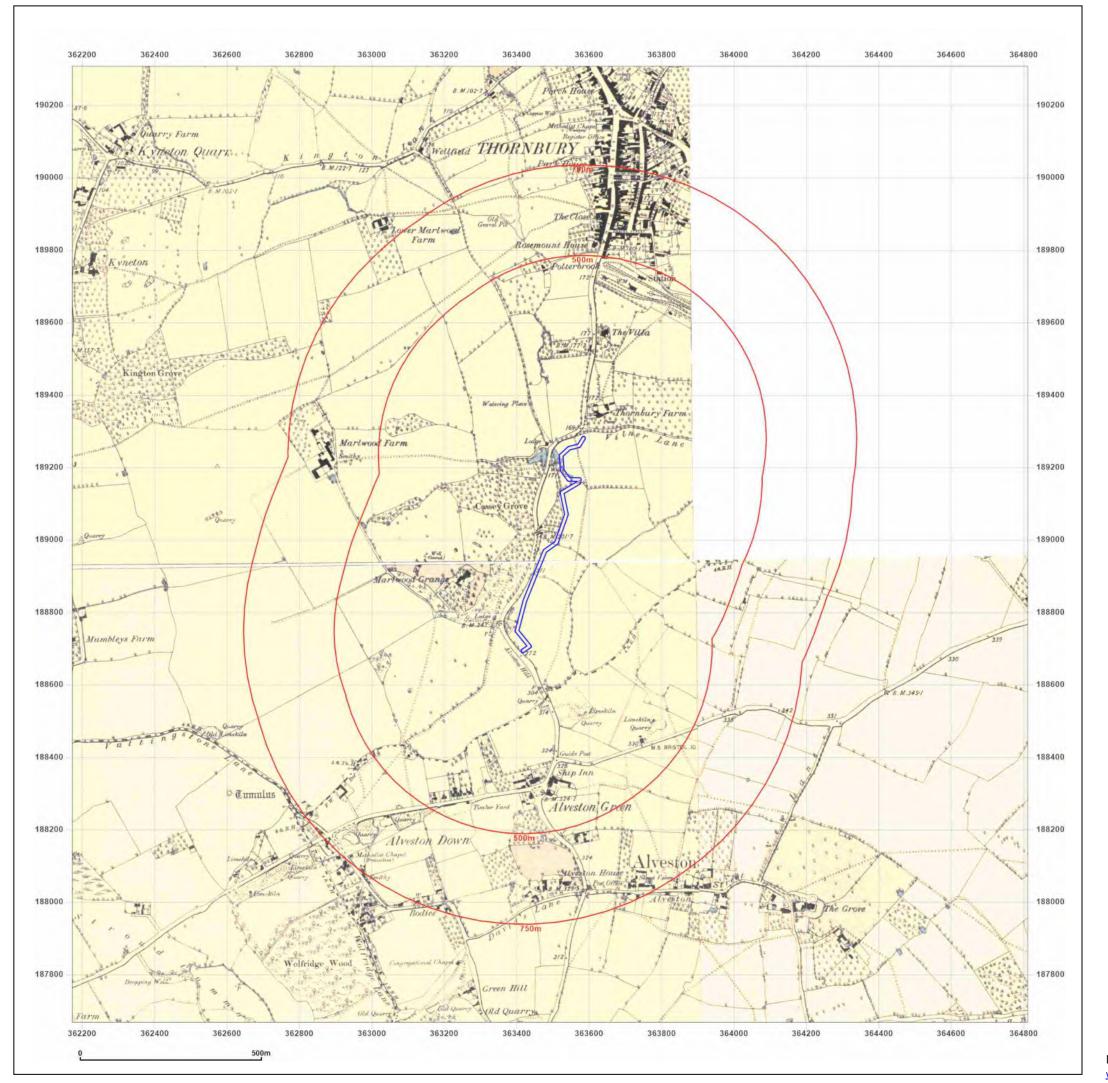




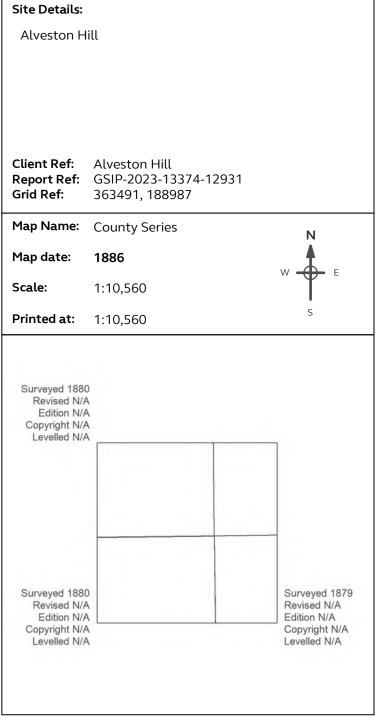
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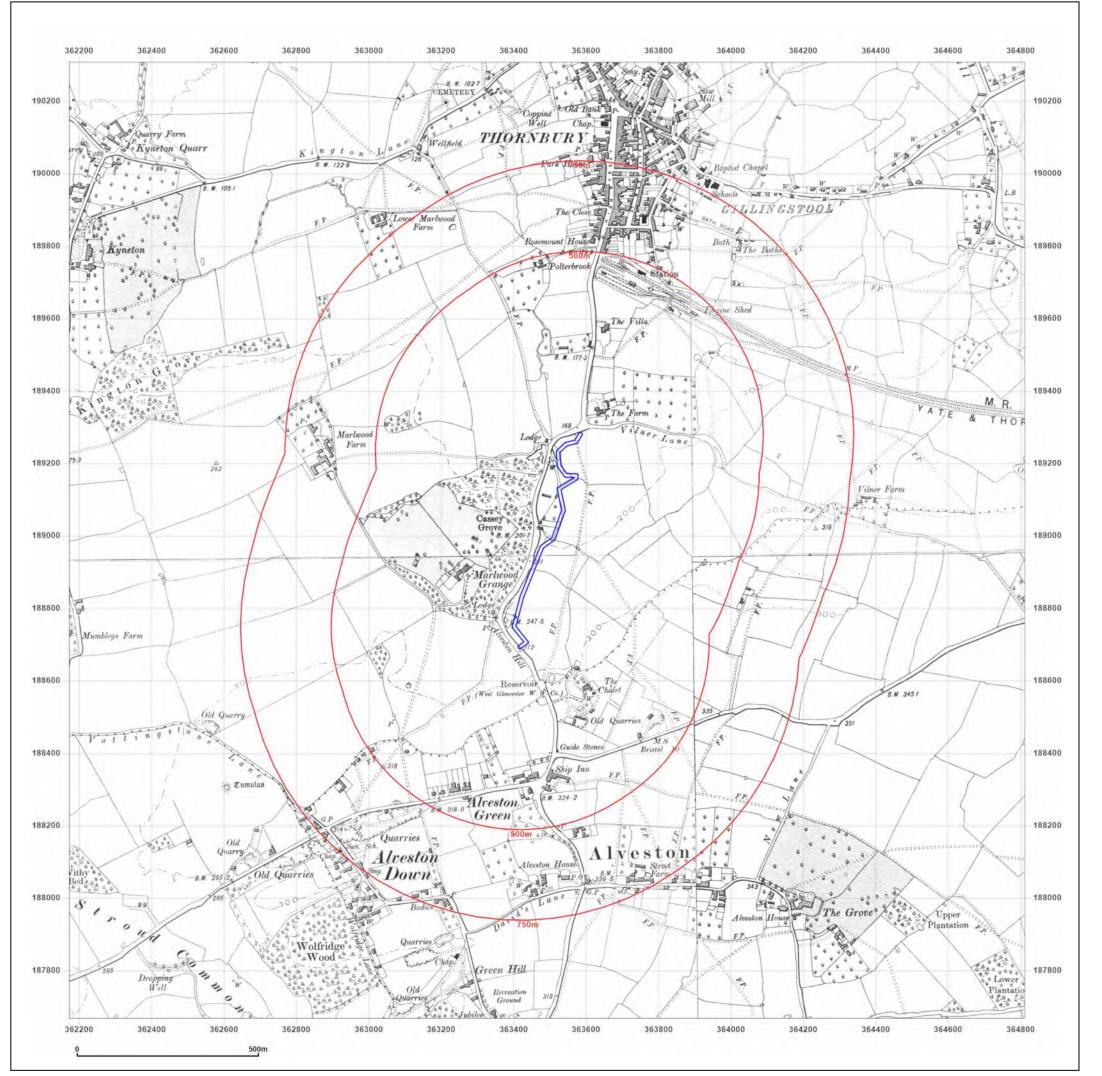




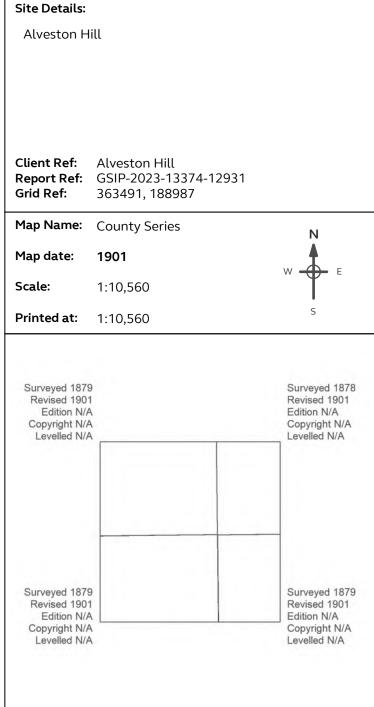
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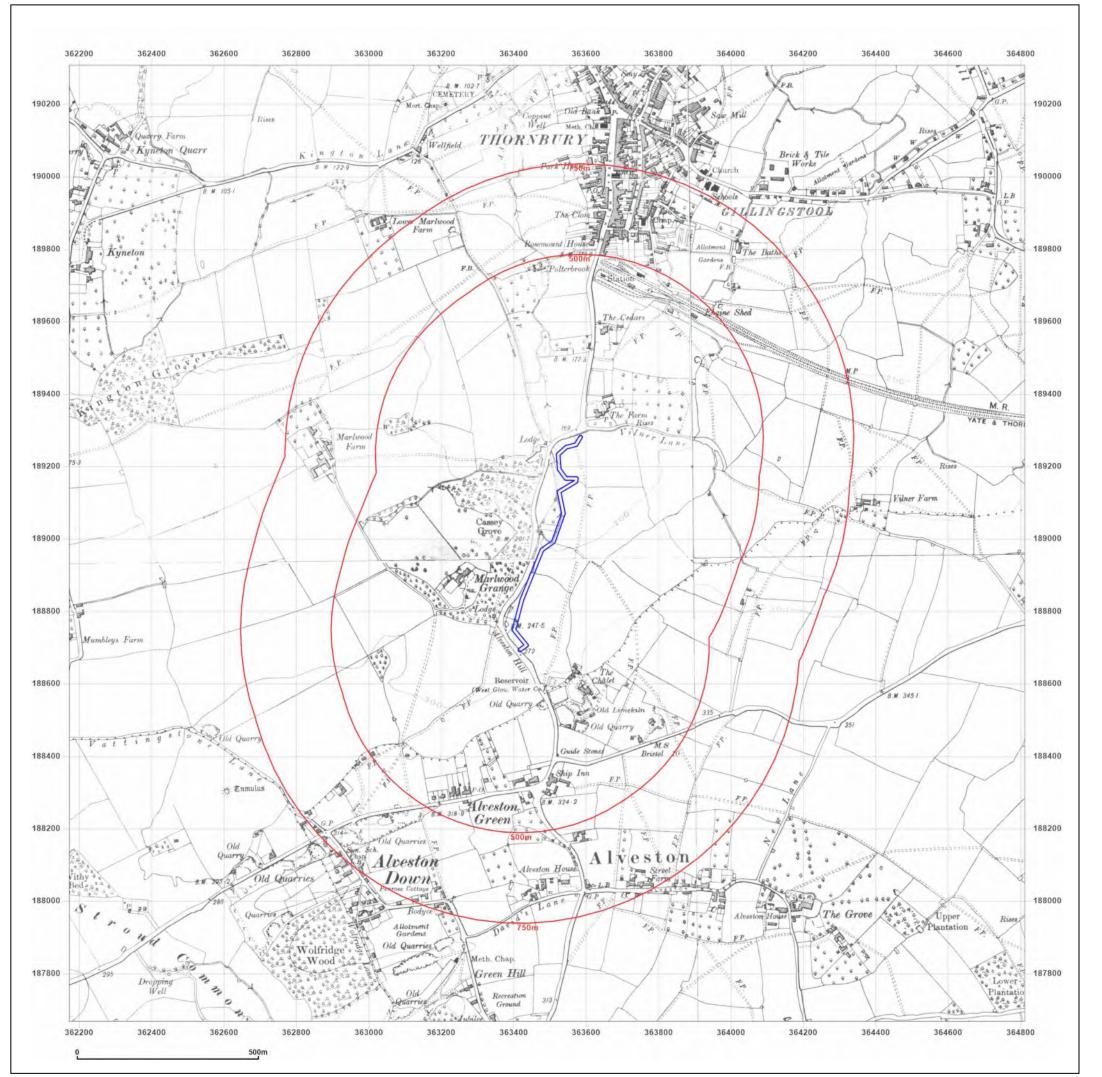




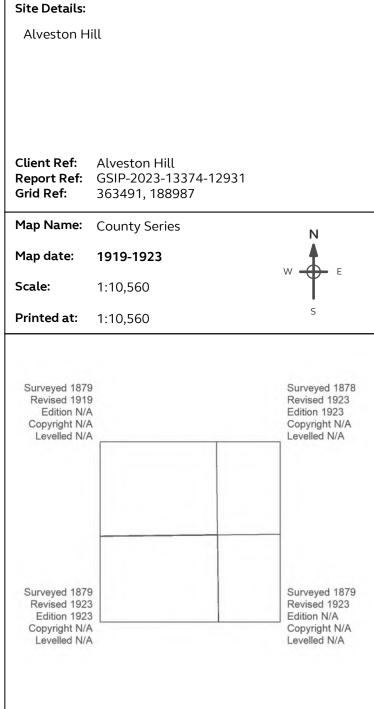
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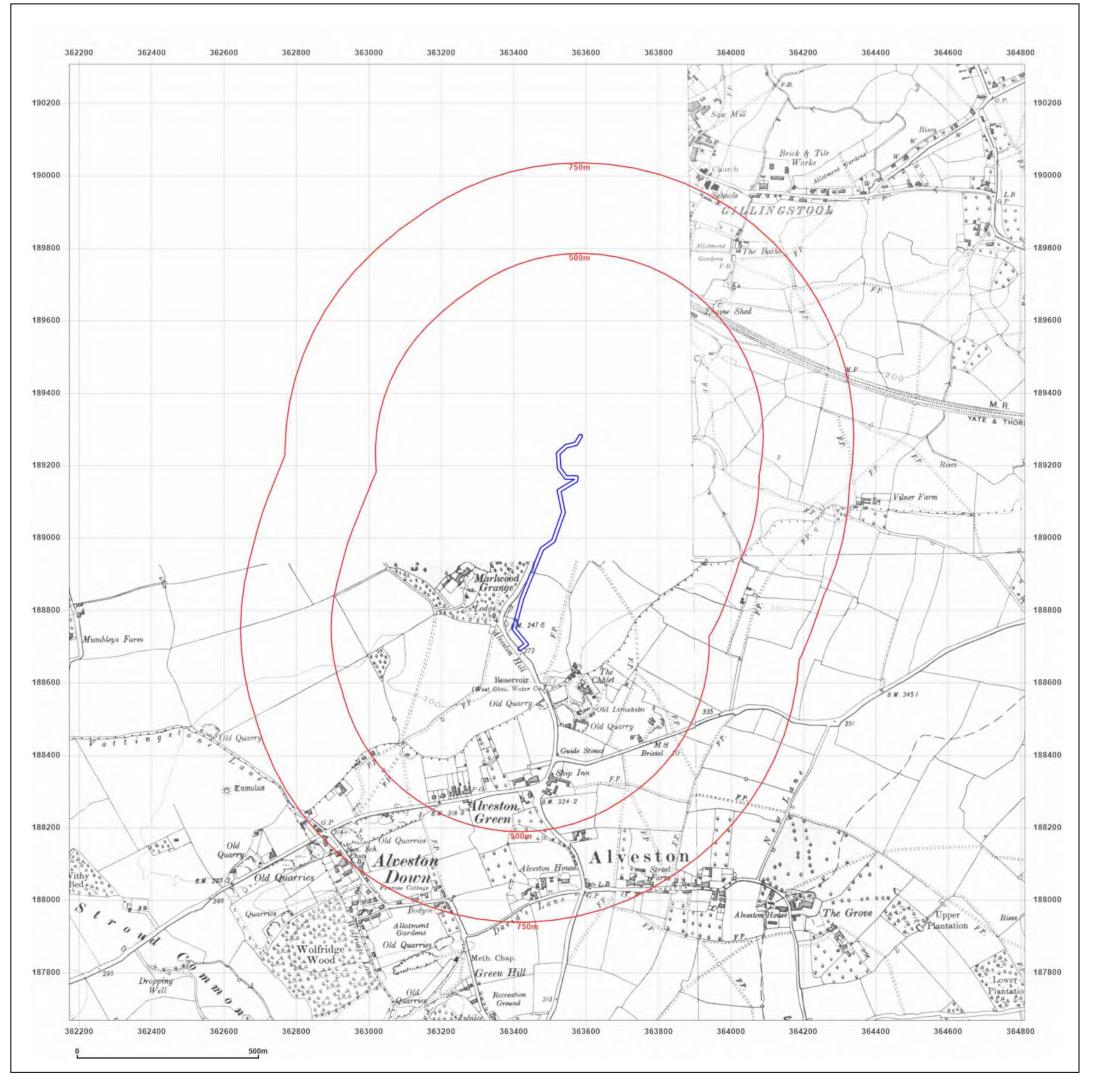




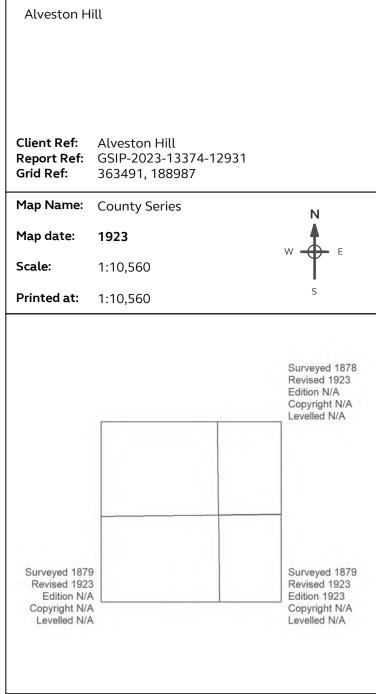
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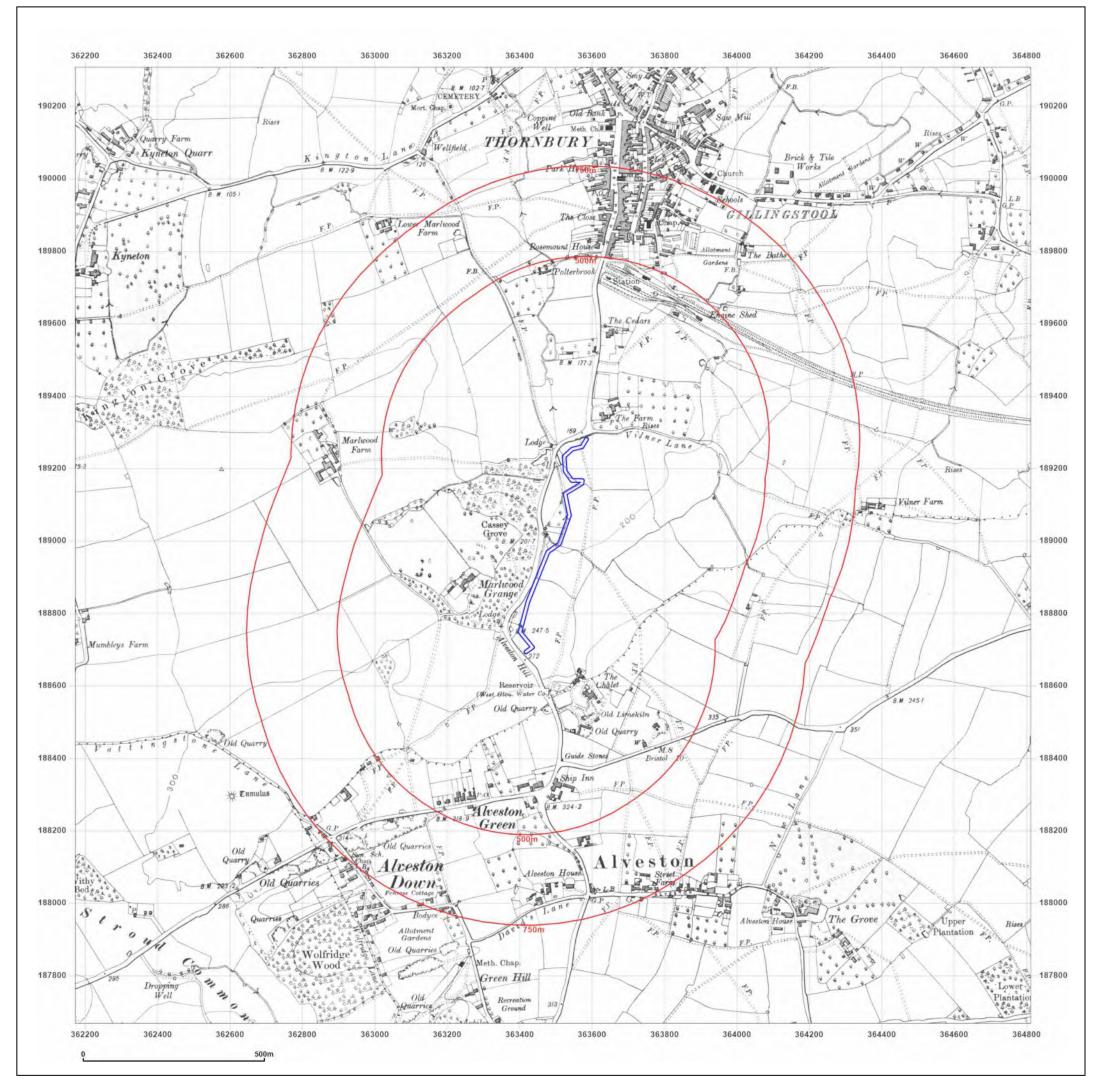


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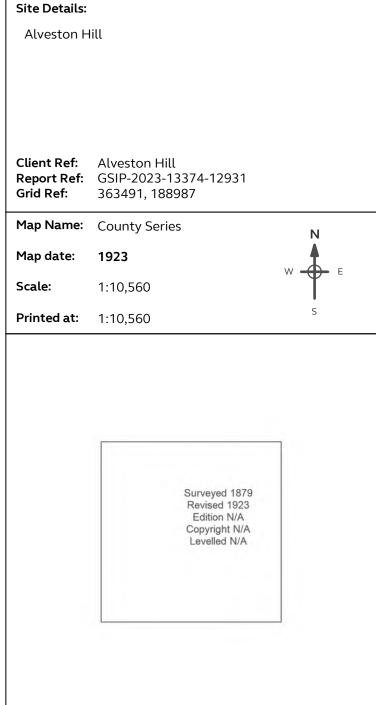
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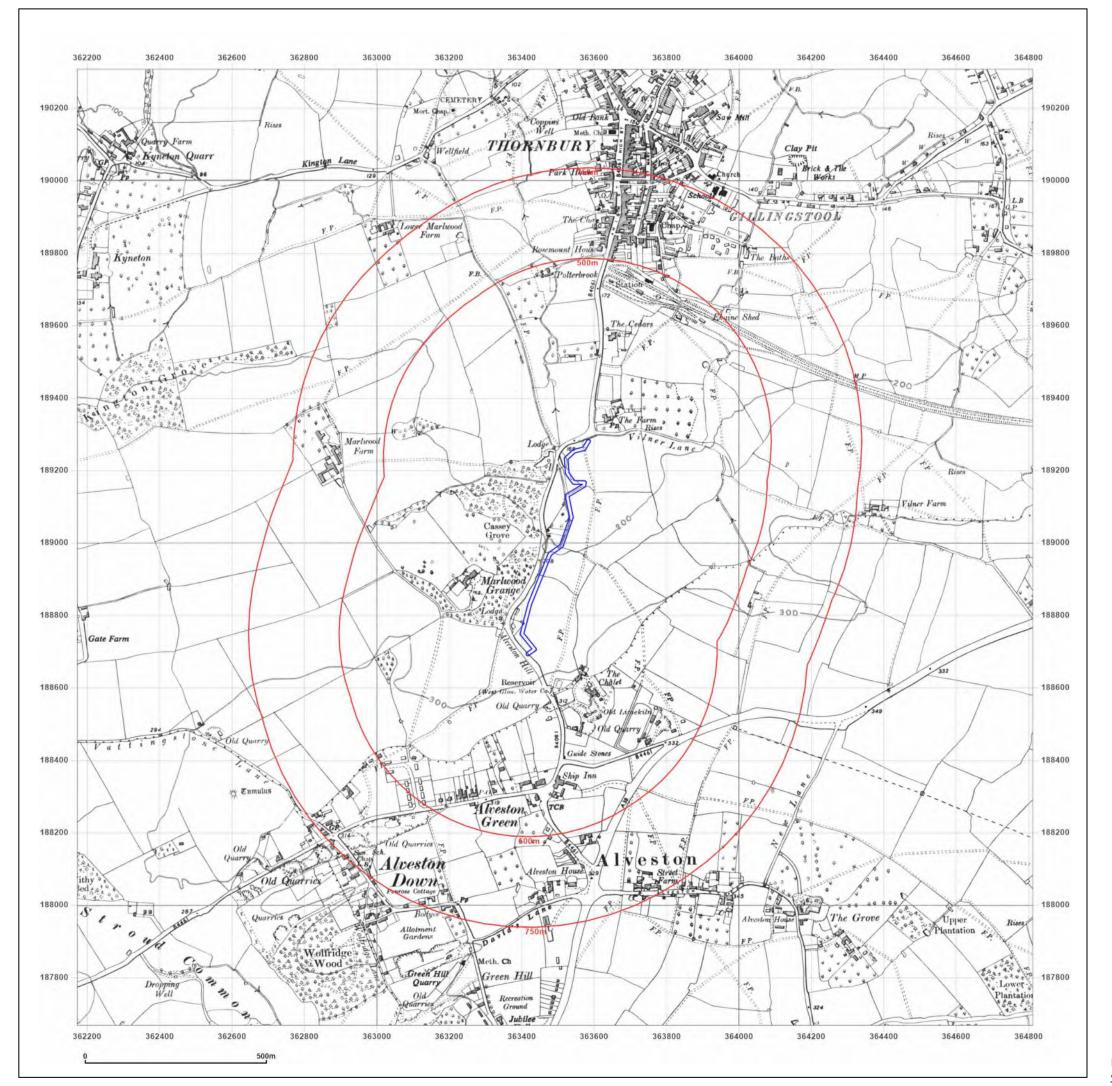




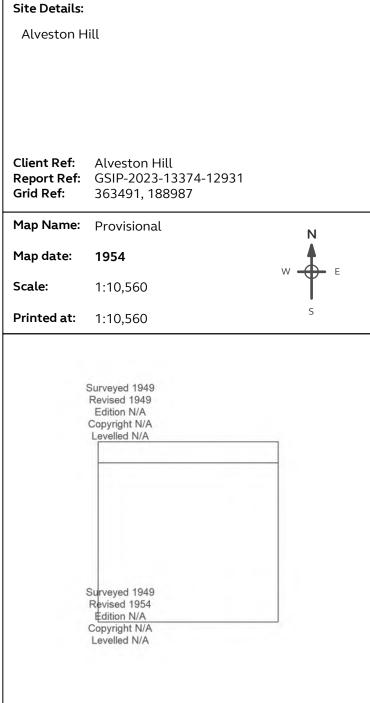
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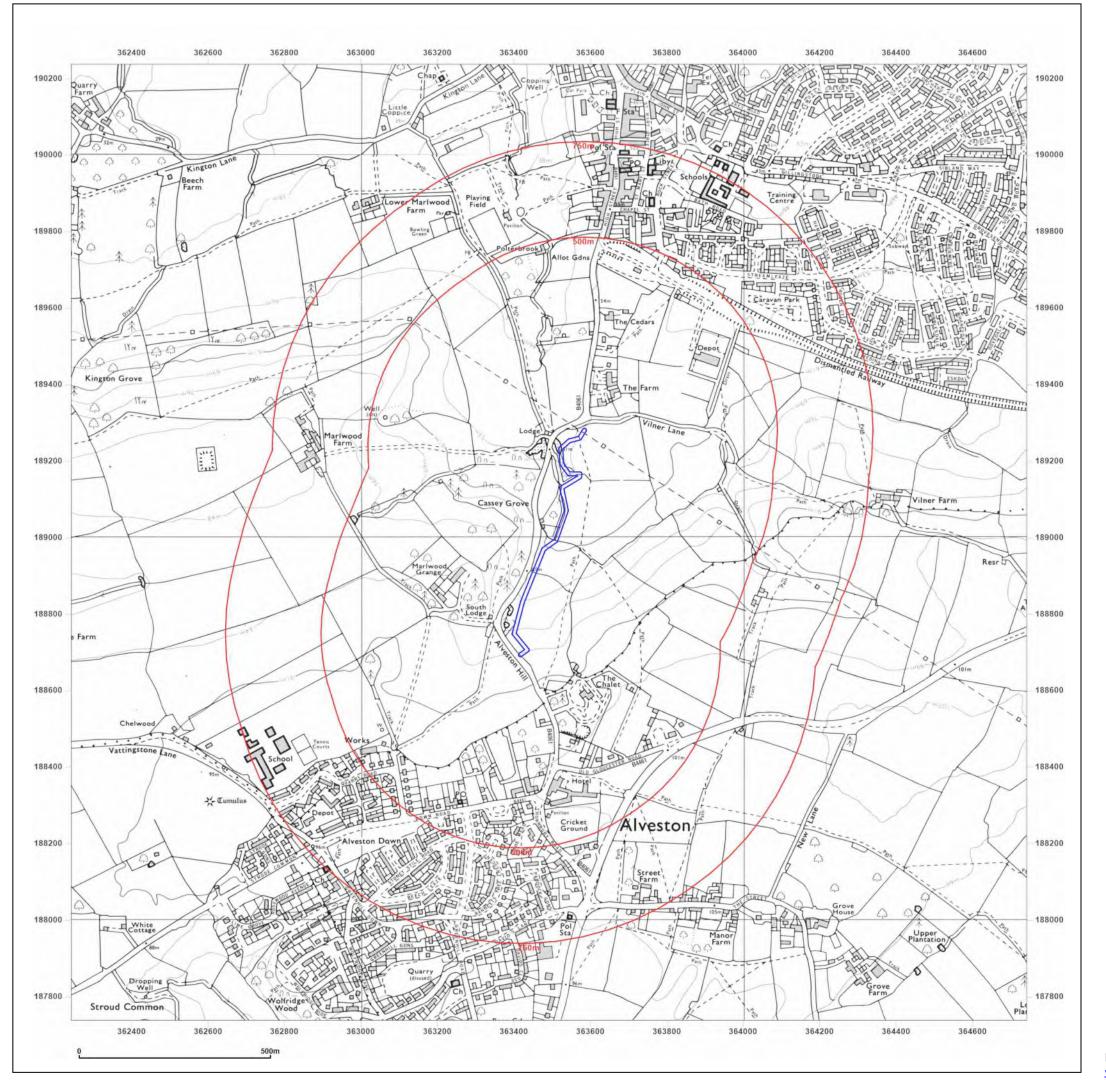




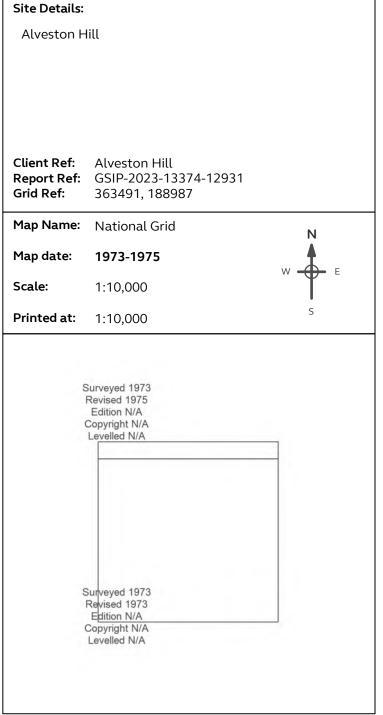
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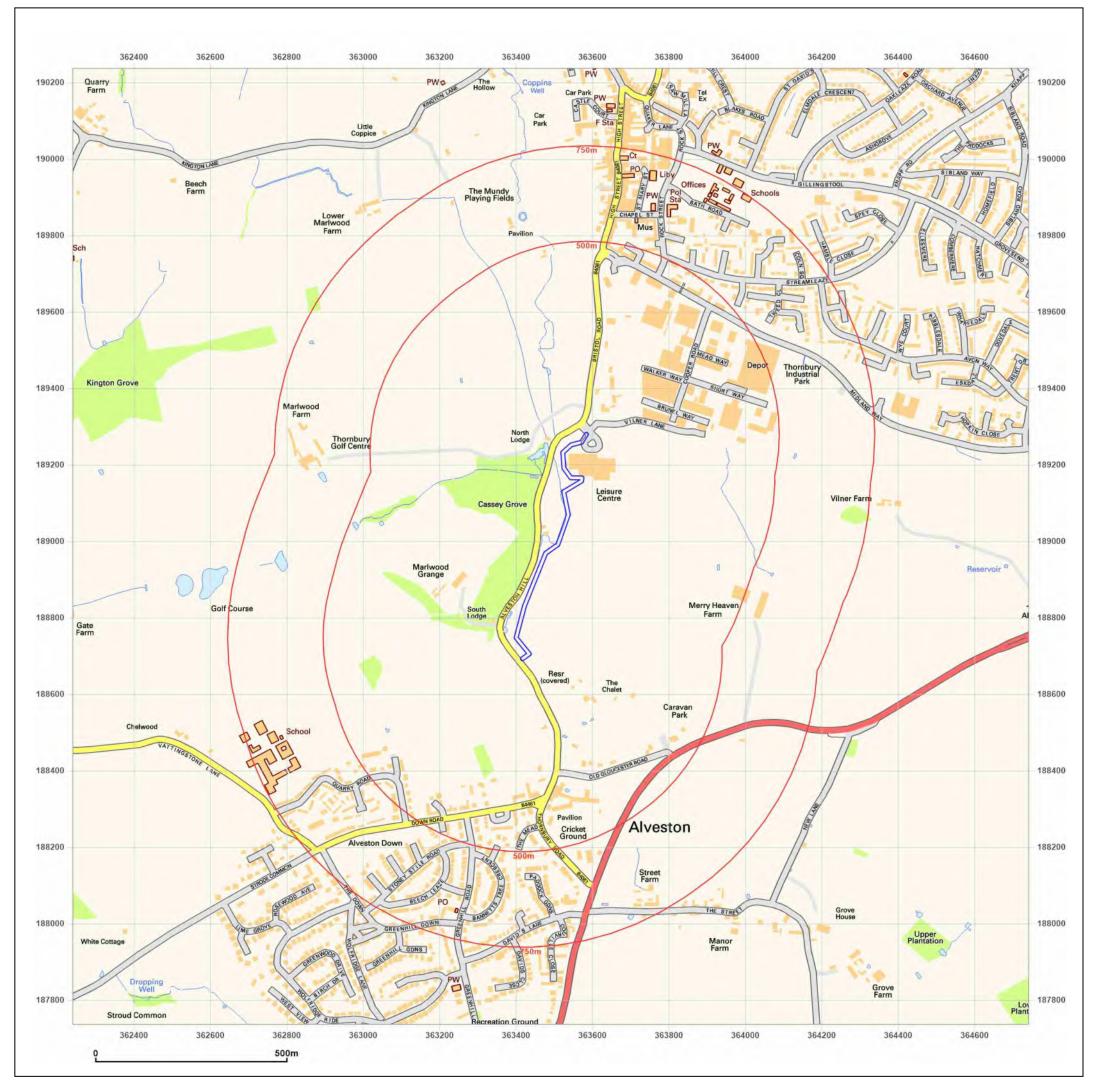




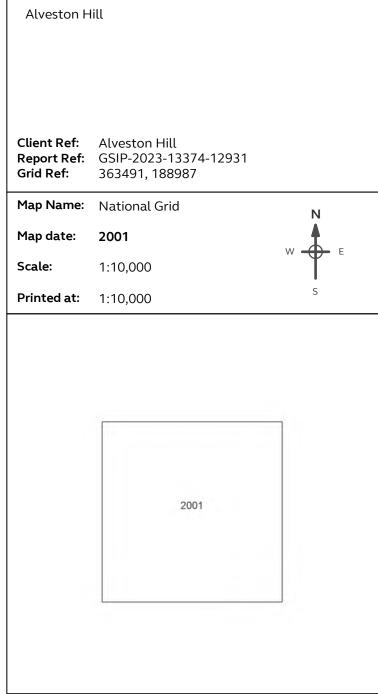
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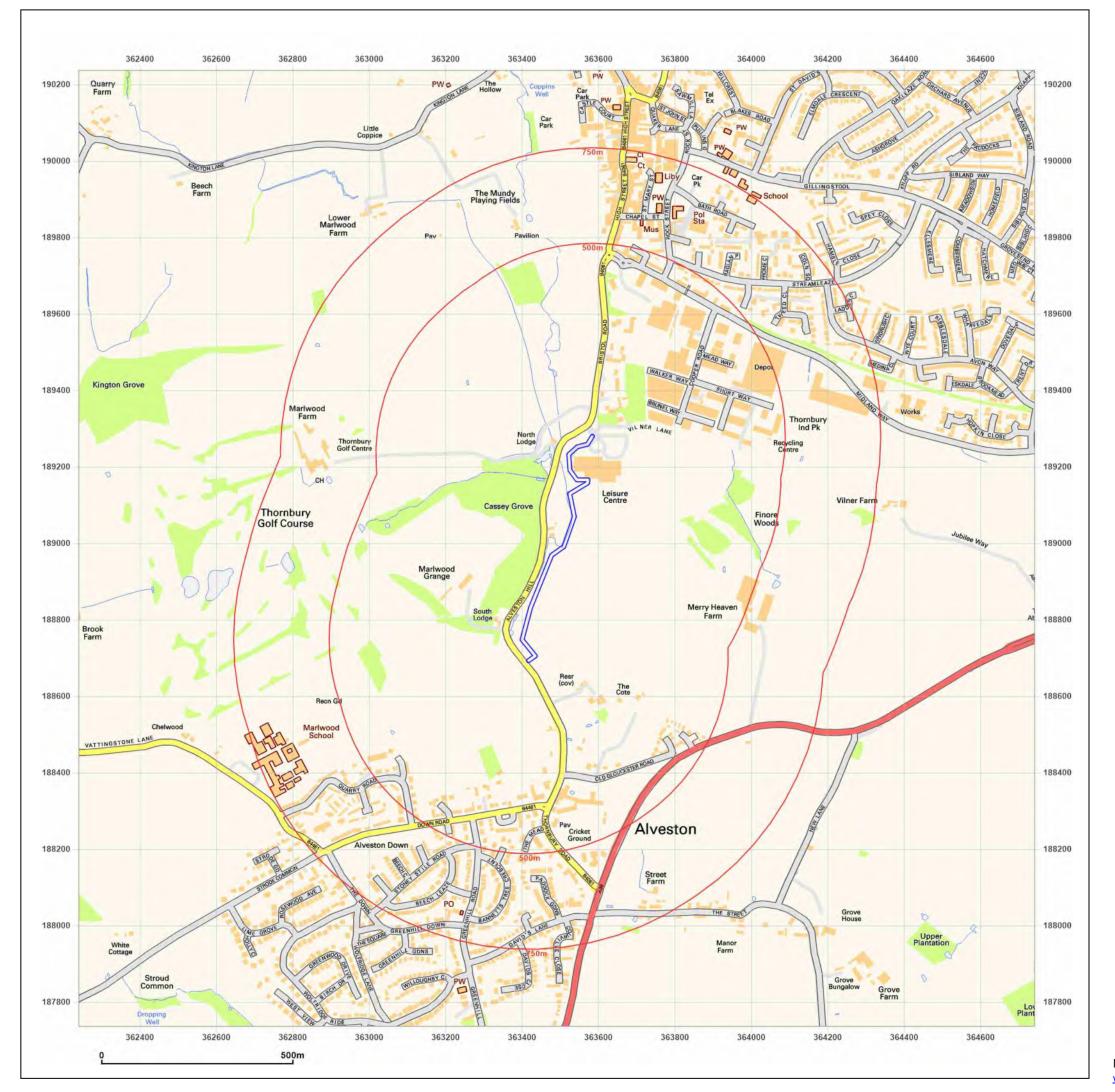


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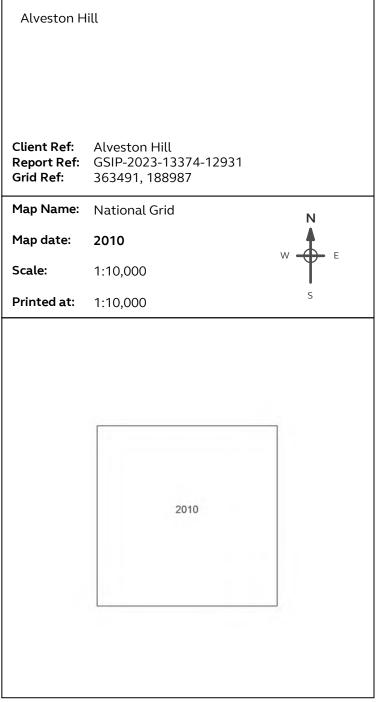
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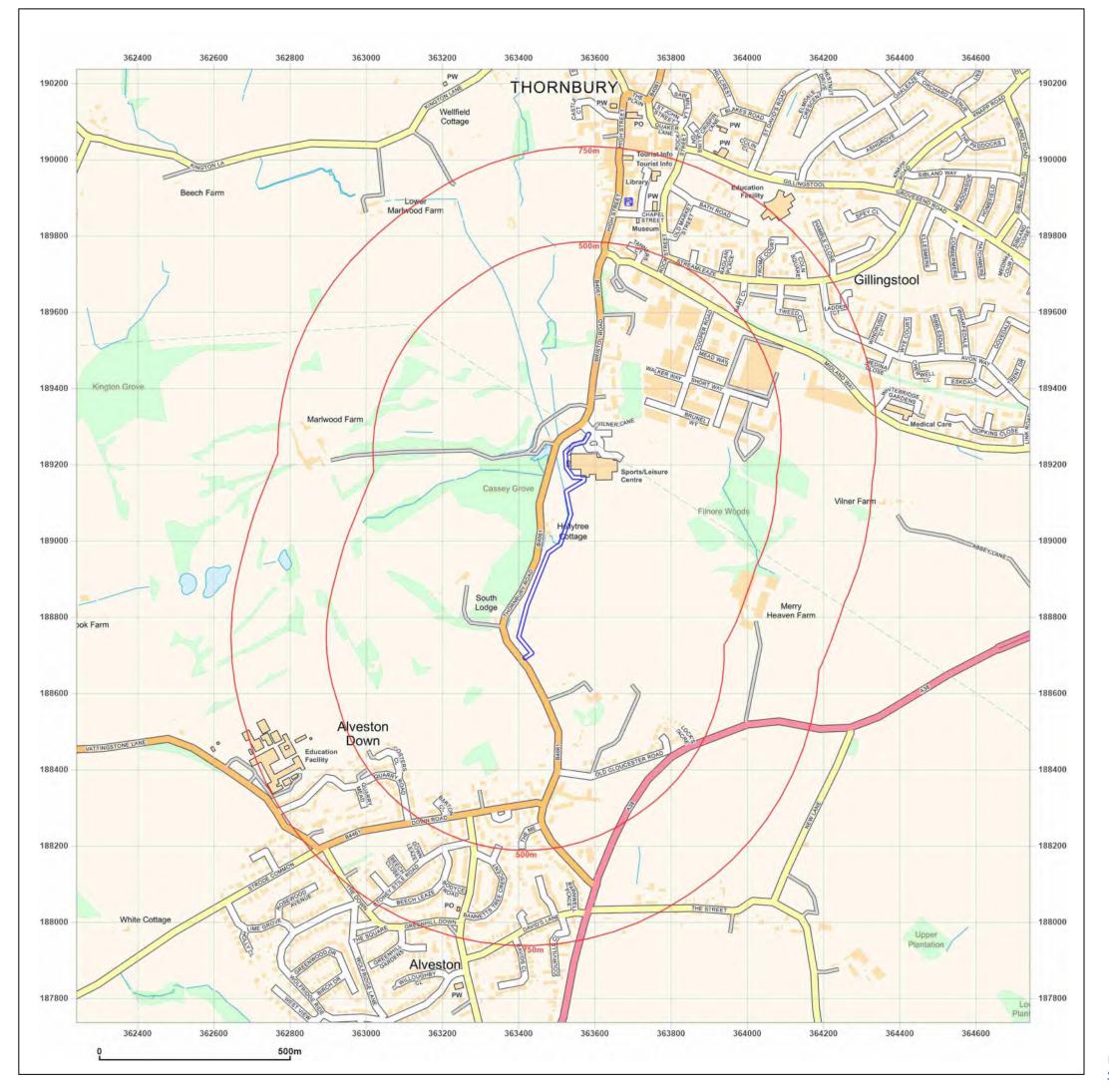


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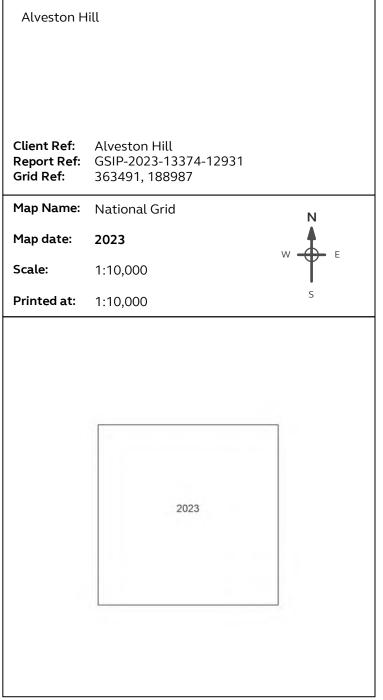
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Appendix D. UXO Information

From: Nathan Towers
Sent: 15 March 2023 16:45
To: Trunks, Megan; Uxo

Cc: Research

Subject: RE: PDSA request - Alveston Hill

Hi Megan

Please find our PDSA below. Any questions, please don't hesitate to contact us.

zeticauxo		
Pre-Desk Study Assessment		
Site:	Alveston Hill, Thornbury, Gloucestershire	
Client:	Atkins	
Contact:	Megan Trunks	
Date:	15 th March 2023	
Pre-WWI Military Activity on or Affecting the Site	None identified.	
WWI Military Activity on or Affecting the Site	None identified on the Site. Marlwood House, approximately 0.1km west of the Site, was used as a camp to hold German Prisoners of War (PoWs). The PoW camp closed after WWI.	
WWI Strategic Targets (within 5km of Site)	 The following strategic targets were located in the vicinity of the Site: Transport infrastructure and public utilities. Industries important to the war effort, including engineering works. Military camps and training areas. 	
WWI Bombing	None identified on the Site.	
Interwar Military Activity on or Affecting the Site	None identified.	
WWII Military Activity on or Affecting the Site	None identified.	
WWII Strategic Targets (within 5km of Site)	 The following strategic targets were located in the vicinity of the Site: Transport infrastructure and public utilities. Industries important to the war effort, including engineering works. Military camps and training areas. Anti-Aircraft (AA) and anti-invasion defences. 	
WWII Bombing Decoys (within 5km of Site)	None.	
WWII Bombing	During WWII the Site was located in the Rural District (RD) of Thornbury, which	

	officially recorded 642No. High Explosive (HE) bombs with a bombing density of 10.5 bombs per 405 hectares (ha).
	No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	A detailed desk study, whilst always prudent, is not considered essential in this instance.
Further information	For information about Zetica's detailed UXO desk studies and other UXO services, please visit our website: www.zeticauxo.com .
	Details and downloadable resources covering the most common sources of UXO hazard affecting sites in the UK can be found here .
	If you have any further queries, please don't hesitate to get in contact with us at uxo@zetica.com or 01993 886 682.

This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this

It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard

Many thanks

Nath

Nathan Towers

Risk Assessor Zetica Limited

T. 01993 886 682 | E. Nathan.Towers@zetica.com | W. www.zeticauxo.com | T. @ZeticaUXO

ZETICA BROCHURE



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UNEXPLODED BOMB RISK MAP



SITE LOCATION

Map Centre: 363506,188936



LEGEND





Low: Areas indicated as having 15 bombs per 1000acre or less.





UXO find



Luftwaffe targets





oy **1** other

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682** email: **uxo@zetica.com**

web: www.zeticauxo.com

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (https://zeticauxo.com/downloads-and-resources/risk-maps/)

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It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.



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