Fferm Solar Larnog

Environmental Statement

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November 2026

Trydan Gwyrdd Cymru

UPPER COSMESTON - SOLAR FARM

Geo-environmental Preliminary Risk Assessment



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CONFIDENTIAL

Trydan Gwyrdd Cymru

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1 INTRODUCTION

1.1 TERMS OF REFERENCE

WSP UK Limited (WSP) was instructed by Trydan Gwyrdd Cymru Ltd 'The Client' to undertake a Preliminary Risk Assessment (PRA) to support the development of the proposed Upper Cosmeston Solar Photovoltaic (PV) plant in Penarth, Wales (hereby known as the 'Site'). The PRA will form part of the planning application for a proposed new solar farm development and will form the basis for future geo-environmental works associated with the project in later development stages.

It is understood that a siting study has been completed for shortlisted sites with respect to solar development potential, based on environmental, technical and constraints factors.

The Site is situated approximately 3 km south of the town of Penarth, Vale of Glamorgan, Wales and is about 58 hectares (ha) in area in total. The Site is owned by the Welsh Government and is located along the coast and comprises a number of individual fields portioned by hedgerows, trees and small roads. For the ease of distinguishing features identified during the assessment, the Site was defined into four sections:

- LP1: Western portioned fields.
- LP2: Central portioned fields.
- LP3: Eastern portioned fields.
- LP4: Small northern segregated field.

Site location plan and current layout are presented in Figure 1 and Figure 2 in **Appendix A.**

1.2 AIMS AND OBJECTIVES

The aim of this report is to undertake a desk-based assessment of the Site with respect to the ground conditions, groundwater conditions and potential contaminated land.

To address the identified aim, the key objectives include:

- Developing a preliminary Conceptual Site Model (CSM) to identify potential contamination risks associated with the proposed development of the site;
- Evaluate likely contaminated land exposure pathways and their potential significance to identified receptors to support the proposed development; and
- Highlighting environmental considerations (i.e. potential risks/constraints) with respect to ground, ground gas and groundwater conditions.

1.3 SCOPE OF WORKS

To meet the aims and objectives identified in Section 1.2, the following scope of works has been undertaken:

- A site walkover;
- Purchasing and review of a Groundsure report;
- Review of publicly available historical maps and plans to understand former land uses and potential contaminative activities on, and surrounding the site;
- Review of relevant regulatory databases;

- Review of relevant publicly available information relating to hydrological features, hydrogeology, neighbouring land use, ecologically sensitive uses and geology in order to establish the environmental setting of the site;
- Develop a preliminary conceptual site model (CSM) via the source-pathway-receptor contaminant linkage approach;
- Describe the environmental risks and or opportunities surrounding ground, groundwater and ground gas conditions, which have the potential to arise associated with the future uses of the site; and,
- Production of a Preliminary Risk Assessment (PRA) report.

1.4 LEGISLATIVE CONTEXT

The assessment was undertaken in the legislative context of:

- Part 2A of The Environmental Protection Act (1990); and
- The Planning Policy Wales Edition 12 (2024).

The following good practice and statutory guidance was considered, and the assessment was undertaken in general accordance with:

- Environment Agency 'Land Contamination Risk Management' (LCRM) (2025);
- Welsh Government 'Contaminated Land Statutory Guidance, (2012);
- Welsh Land Contamination Working Group, Development of Land Affected by Contamination: A Guide to Developers (2023);
- NHBC 'Guidance for the Safe Development of Housing on Land Affected by Contamination', R&D66 (2008); and,
- CIRIA C552 'Contaminated Land Risk Assessment. A guide to good practice' (2001).

1.5 SOURCES OF INFORMATION

The relevant sources of information used in the production of this report are presented in Table 1-1.

Table 1-1 – Sources of information

Source	Report
WSP Reports	▪ WSP, Upper Cosmeston Solar Farm - Capacity Assessment and Energy Yield Analysis. Report Ref: UK0028363.7660-REP.002. Dated June 2025.
Third Party Reports	▪ Groundsure Report, Reference: WSP-XAM-7IS-ICL-FNG. Dated 25 June 2025. ▪ Groundsure Historical Mapping, Reference: WSP-DE5-BE4-N1H-YAJ. Dated 02 July 2025
Public Information	▪ NRW (Online) Interactive Database Maps. https://datamap.gov.wales/maps/new#/ Accessed June 2025. ▪ British Geological Survey (BGS) Geoindex onshore viewer. https://mapapps2.bgs.ac.uk/geoindex/home.html. Accessed June 2025. ▪ BGS Hydrogeological 625k Digital Hydrogeological Map of the UK, ▪ https://www2.bgs.ac.uk/groundwater/datainfo/hydromaps/hydro_maps_scanviewer.html, accessed June 2025. ▪ UK Flood Map for Planning, https://flood-map-for-planning.service.gov.uk/, accessed June 2025. ▪ UK Maps of Radon, https://www.ukradon.org/information/ukmaps, accessed June 2025.

	▪ Zetica UXO Risk Maps; https://zeticauxo.com/downloads-and-resources/risk-maps/, accessed Juen 2025. ▪ Wikipedia, http://en.wikipedia.org/wiki/Taff_Vale_Railway, accessed June 2025. ▪ Vale of Glamorgan Council, 'Application for residential development a primary school, community space and public open space with all matters reserved other than access', Land at Upper Cosmeston Farm, Lavernock Road, Penarth, https://www.bromorgannwg.gov.uk/Documents/_Committee%20Reports/Planning/2024/24-03-21-Reconvened/Complete-Planning-Report-Reconvened.pdf, accessed 30 June 2025.
Notes:	The report contains British Geological Survey materials ©NERC 2017 and Natural Resource Wales information ©NRW and database right.

1.6 UNDERSTANDING RISK

It is important to understand that any risks identified during a preliminary assessment, such as the one presented in this document, are perceived risks based on the information reviewed. A more detailed assessment of the actual risks can only be assessed following further intrusive investigations.

The preliminary assessments presented herein are qualitative based on professional judgements following the review of available data and within the context of the existing/proposed use. Those risk categories presented (very low, low, low to moderate, moderate, high and very high) follow guidance presented in CIRIA Publication C552, Contaminated Land Risk Assessment – A Guide to Good Practice. CIRIA states that the risk levels should be based on an understanding of both the probability (likelihood) of a risk occurring and the magnitude of the potential consequence (severity) of a risk.

CIRIA defines four levels of probability and four levels of severity with relation to contaminated land, as presented in **Appendix B**

1.7 CONFIDENTIALITY AND LIMITATIONS

This report is addressed to and may be relied upon by Trydan Gwyrdd Cymru Ltd. The report may not be relied upon or transferred to any other parties without the express written authorisation of WSP. This report should be read in full. No responsibility will be accepted where this report is used, either in its entirety or in part by any other party.

Third party information used in the production of this report has been taken in good faith as being accurate. WSP cannot and will not accept any liability for errors and/or omissions in data provided by others and WSP cannot warrant the work of others.

General limitations of the assessment are included in **Appendix C**.

2 SITE BACKGROUND INFORMATION AND SETTING

2.1 SITE DESCRIPTION AND CURRENT USE

A Site Location Plan and Site Layout Plan are presented as **Figure 1** and **Figure 2** in **Appendix A.**

A site walkover was undertaken on 26 June 2025 by an Environmental Scientist from WSP. The key observations from the walkover are presented in Table 2-1. Site walkover photos are presented in **Appendix D.**

Table 2-1 - Summary of Site Details

Detail	Comment
Name	Upper Cosmeston Solar PV plant in Penarth, Wales
Location	The Site is located 3 km south of Penarth, South Wales at an approximate postcode of CF64 5XS.
Site Description, National Grid References, and Current Use	The Site is defined by undulating arable and rural land, which appears to be used for crops and rough grazing purposes. It is split into four areas located across the site these have been defined as the following: ▪ Land Parcel 1 (LP1): Western extent of connected fields with St Mary's Well Bay Road defining the boundary along the east and Lavernock Road to the north. Accessible through gates along St Mary's Well Bay Road with access tracks throughout the fields. LP1 is centred on National Grid Reference (NGR) ST1731668111 and is approximately 20.9ha in area. ▪ Land Parcel 2 (LP2): Central portion of connected fields with St Mary's Well Bay Road defining the western boundary and Fort Road the eastern boundary. Accessible through gates along Fort Road and St Mary's Well Bay Road. LP2 is centred on NGR ST1779368273 and is approximately 26.9ha in area. ▪ Land Parcel 3 (LP3): Eastern extent of connected fields with Fort Road defining the boundary to the west and adjacent fields, and Ranny Bay to the east. Accessible through tracks to the south of Fort Road. LP3 is centred on NGR ST1840568603 and is approximately 27.5ha in area. ▪ Land Parcel 4 (LP4): Isolated northern field bound by Lavernock and St Mary's Well Bay Road to the north and the old railway line to the south. Accessible through a gate situated along St Mary's Well Bay Road. LP4 is centred on NGR ST1765268647 and is approximately 2.0ha in area. The land parcels at the Site showed limited development, with no current buildings or structures located within the boundary extents.
On-site Activities	Agricultural crops were evident across all land parcels (photos 2 ,3 ,4, 11, 18, 19, 24, 28 and 32) with manure observed to be stockpiled in LP1 (photo 25) and LP2 (photo 1). Public walking paths are located withing the extents of LP2 and LP3. No evidence of the use or storage of fuels / hazardous substances was observed during the site walkover.
Site Setting and Surrounding Land Uses	The Site is situated in a rural / agricultural setting, with attached residential dwellings and two holiday / caravan parks along the southern extents, outside of the Site boundary. The Site is bound to the east by Ranny Bay and further rural / agricultural properties to the west and Laverock Road followed by agricultural properties to the north.

Detail	Comment
	A raised historical (disused) railway line runs north-east to south-west adjacent to the northern boundaries of LP1 and LP2 (photo 31), and the southern boundary of LP4. No industrial land uses were observed within the surrounding properties except for a historical landfill located along the northern boundary of LP3.
Topography and Ground Cover	The Site generally consisted of undulating fields with fields in the eastern portion LP3 sloping to the south and south-east towards Ranny Bay. The ground cover predominantly consisted of crops and grasses with some small, localised areas of bare ground observed. Trees and dense shrubs were situated along the boundaries of each field and to a greater extent within sections of LP1 and LP3.
Drainage & Flooding	No evidence of ponded water was observed during the walkover with limited evidence of drainage lines. Surface water runoff is considered likely to drain between the undulating fields towards Ranny Bay and St Mary's Well Bay. Sewage infrastructure was observed to run north to south through LP3, with grates observed and a sewer manhole in an adjacent field outside the survey area.
Foundations, Retaining Walls & Basements Evident on site	No remnant infrastructure was identified during the Site walkover.
Visual Observations of Contamination or Ground Subsidence	No evidence of significant contamination was observed during the Site walkover. However, evidence of Made Ground was observed associated with the old quarry in LP2 (photos 6,7 and 8) and former houses in LP3 (photos 16 and 17).
Asbestos Containing Materials (ACM)	No ACM observed during the Site walkover.

2.2 SITE WALKOVER

Prior to the walkover, site plans were reviewed to identify any current or historic features on Site. These features were then visited during the site walkover to obtain an up-to-date status. The main observations are noted inError! Reference source not found. and should be read in conjunction with S ite walkover photographic plates in **Appendix D** and feature location plan in **Appendix A.**

Table 2-2 – Summary of Site Walkover Observations

Feature Description	Location	Reference Photographic Plate
Old Quarries: Previous land disturbance was notable along the boundaries in LP3 and in a portion of LP2 where historical quarrying had been identified in historical mapping. Characterised by densely vegetated areas containing uneven ground surface and mounding, with large trees and shrubs present rendering ground surface visibility limited.	Eastern and central portions of Site	5 – 8, 22
Former Building Footprint: Overgrown, uneven ground surfaces located in two areas of LP3 where buildings identified in historical mapping were previously present. Evidence of former building identified in surface soils (i.e. wooden boards).	Eastern and north eastern portion of Site	9-10, 14-17

Feature Description	Location	Reference Photographic Plate
Zones of Made Ground / Waste: Bricks, glass, metal and plastics were observed in areas of bare ground surrounding the footprint of the historical quarries. Domestic waste in the form of plastic and brick was observed on the surface in small, localised portions of LP3..	Eastern and central portions of Site	6-8, 12, 22
Manure Heaps: Heaps were identified in isolated locations on Site, with the largest heap 40m x 5m x 1.5m located in LP2 and a 2m x 2m x 1m heap observed in LP1.	Western and central portion of Site	1, 25
Bare ground / Stressed Vegetation: Localised areas of bare ground were observed in the fields located in LP3, with stressed vegetation observed.	Eastern portion of Site	23
Railway Line: Evident running alongside the boundary of LP2, with raised railway embankment. Tracks no longer present, with no evidence of sidings observed within the Site boundary.	Northern portion of Site	31
Agricultural Practice: Cropping was evident across most of the Site.	Site wide	2-4, 11, 13, 18-20, 24, 26-30, 32
Former Landfill (off-site): The coinciding boundary alongside the landfill with the Site was inspected with no evidence of legacy waste, odours or leachate identified.	North eastern portion of Site	20-21

3 HISTORICAL LAND USE

3.1 ON-SITE HISTORY

A summary of chronological Site development is presented in Table 3-1, with the Site generally remaining undeveloped and subject to low intensity agricultural practices.

The Site has a history of varied land use and disturbance. An isolation hospital, built between 1901 and 1915, was located in the eastern part of the Site (LP3) and remained on maps until 1938. In the north eastern corner of LP3, former buildings of unknown use were indicated by uneven ground, mounding, and wooden boards observed during a walkover. Historic limestone quarrying was evident across the Site, supported by the presence of limekilns on maps dating back to 1878. These quarry areas are now marked by dense vegetation, rocky outcrops, and disturbed ground. Additionally, signs of Made Ground were observed around the former quarries, with surface soils containing brick, glass, metal, and plastic debris, suggesting historic infilling or waste disposal.

3.2 HISTORY OF SURROUNDING LAND USE

A review of the surrounding historical land use identified the main features to include the Taff Vale Railway line running directly along the northern boundary of the Site, with Lavernock Railway Station situated between the LP2 and LP4. The railway line was a connection between Cardiff and Barry, established in 1884 and was predominantly used for mineral transportation (coal) and to a lesser extent passenger services. Lavernock Station was primarily a passenger station with goods traffic associated with the Penarth Cement Works located further north of the Site transported from the station. It ceased operation in 1968, and the track was subsequently dismantled, with evidence of the raised railway line sighted during the Site walkover.

Historical landfilling of the former quarry situated adjacent to the northern boundary is understood to have been undertaken between 1974 and 1996. The landfill operated by the Vale of Glamorgan Council was licensed under ‘Cosmeston No.1 Old Tip’ accepting inert, industrial, commercial, household and special environmental permitting regulations waste.

3.3 HISTORICAL MAPS

A review of the Site history has been undertaken to assess potentially significant contaminative activities that may present a risk to future users and the wider environment under the proposed development. A review of available historical mapping is presented in **Table 3-1.**

Table 3-1 – Summary of Historical Site Development

Year / Scale	On-site	Off-site (500m radius)
1878 / 1:10,560 1879 / 1:2,500	Generally, the Site appears to be undeveloped and subdivided into fields for agricultural purposes. Two wells are identified in the central southern portion (LP2). Old quarries and limekilns are located in the eastern (LP3), western (LP1) and central portions (LP1 and LP2).	Rural properties are located adjacent to the central portion and southern boundary of Site including the St Lawrence Church. Multiple refuse or slag pits are located approximately 250m northwest. Multiple old quarries and limekilns are located between the western boundary and approximately 250m west and southwest.
1898-1901 / 1:10,560 1898-1899 / 1:10,560 1900 / 1:2,500	No significant changes with the exception of an additional quarry identified in the northwest of the LP1.	Railway line evidently running along the northern boundary and Lavernock Station. Upper Cosmeston Farm is located 250m north of the Site. Vineyard is located listed approximately 100m from the northwestern boundary.
1915 / 1:10,560	Isolation hospital is located in the southwest of LP3. Further quarry and refuse or slag pit are located in LP3 running along the western boundary. No further changes observed.	No significant changes with the exception of Portland cement and lime works, approximately 500m north of the eastern portion of Site.
1920 / 1:2,500 1921-1922 / 1:10,560	No significant changes. All quarries and limekilns previously identified on-site are labelled as “old quarry” and “old limekiln”.	No significant changes.
1940-1943 / 1:2,500 1947 / 1:10,560	Four buildings footprints are evident in the northeastern corner of LP3. Isolation hospital no longer indicated on mapping.	Quarry at the northern boundary of LP3 (the location of the former Cosmeston No.1 Old Tip) has been extend along the northern boundary.
1964 / 1,2500	No significant changes.	No significant changes. The Portland cement and lime works 500m north of the eastern portion of Site are now labelled only as “works”, although considered likely to still be the cement works.

Year / Scale	On-site	Off-site (500m radius)
1968-1970 / 1:2,500 1972 / 1:10,000	Limekiln to the north of LP1 is listed as disused.	Railway line north of LP1 and LP2 is now identified as dismantled. Two caravan parks are established to the south of LP1, LP2 and LP3. Lavernock Farm is now indicated adjacent to St Lawrence Church and the south-eastern boundary of LP3. Lavernock Station is listed as disused. A filter bed is identified approximately 150m to the southeast of LP3 Site boundary.
1987 / 1:10,000 1988-1993 / 1:2,500	Stones are listed at the building footprint in the northeastern corner of LP3, with only one building indicated after 1987. Drains are indicated in the northern portion of LP3 and southern portion of LP2.	An electrical substation is indicated along the southern boundary of LP2. The old quarry along the northern boundary of LP3 is no longer indicated. An unspecified works is indicated along the northern boundary of LP2 and south of LP4 in the vicinity of the disused Lavernock Station. There is a building development approximately 500m to the southeast and further development to the south of Site associated with the caravan park.
2000 / aerial imagery	Site generally appears to be used for arable land / rough grazing. No clear evidence of land disturbance, dense vegetation apparent in areas of former quarries, pits and buildings.	Caravan parks evident to the south and buildings at the former Laverock Station are apparent along the north central boundary. Upper Cosmeston Farm, Cosmeston Lake and residential developments further to the north.
2009 / aerial imagery	No evident changes, cropping apparent across the entirety of the Site.	No evident changes.
2013 / aerial imagery	Evidence of bare ground / land disturbance in the central portion of LP3.	No significant changes.

Year / Scale	On-site	Off-site (500m radius)
2019 / aerial imagery	No significant changes, bare ground still evident.	No significant changes.
2022 / aerial imagery	No significant changes.	No significant changes.

4 ENVIRONMENTAL SETTING

4.1 PUBLISHED GEOLOGY

British Geological Survey (BGS) Geological maps Sheet No. 263, Cardiff, 1:50,000 Drift (1988) and Solid (1986) Edition (online) and Sheet ST16NE 1:10,000 Solid and Drift, the BGS 'Geology of Britain' online viewer and the Groundsure Report were reviewed to obtain information on anticipated geology.

4.1.1 MADE GROUND

The BGS mapping identifies two areas of Made Ground (undivided) in the western extent of LP3. This area is known to be associated with a former quarry / refuse heap.

The mapping does not identify Made Ground across the remainder of the Site.

4.1.2 SUPERFICIAL DEPOSITS

BGS mapping indicates that there are no superficial deposits beneath the Site.

4.1.3 BEDROCK

The BGS mapping shows the Site to be predominantly underlain by various Tournaisian to Hettangian aged mudstone, limestone and dolomitised limestone formations. The formations encompassing the majority of the Site are indicated on **Figure 3** and included the following:

- St Mary's Well Bay Member - Limestone and Mudstone, Interbedded;
- Lavernock Shales Member – Mudstone;
- Penarth Group - Mudstone and Limestone, Interbedded;
- Blue Anchor Formation – Mudstone;
- Mercia Mudstone Group – Mudstone; and
- Lavernock Shales Member – Mudstone.

The St Mary's Well Bay and Lavernock Shales mapped across the centre of the Site are members of Blue Lias Limestone and are described as thinly interbedded limestone (laminated, nodular, or massive and persistent) and calcareous mudstone or siltstone (locally laminated). While the Penarth Group in the western and eastern portions comprises of grey to black mudstones with subordinate limestones and sandstones. The Blue Anchor Formation in the western portion of the Site is described as pale green-grey, dolomitic silty mudstones and siltstones. In the northeastern portion the Mercia Mudstone is characterised as red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas.

Historical BGS borehole data is available within the Site boundary (in the centre of the area LP3), pertaining to Cardiff Western District-Main Outfall Sewer No.12 investigation works. The findings of the BGS logs are summarised in Table 4-1.

Table 4-1 - BGS Borehole Log Summary

BGS Reference	Total Depth	Lithological Description
ST16NE4	7.62 m	Clays underlain by Blue Lias Limestone.

ST16NE5	26.37 m	Clays underlain by Blue Lias Limestone and subsequently rock and shale formations.

4.2 HYDROGEOLOGY

Solid geology underlying the Site varies across the Site with Principal, Secondary A and B Aquifers designated across the land parcels. The Principal Aquifer located in the western fringe of the Site is characterised as high intergranular and/or fracture permeability. It is considered capable of providing high levels of water storage and may support water supply and river base flow and is likely associated with the carboniferous limestone aquifer. The more central and eastern portions of the Site are overlapped with Secondary A and B aquifers. The Secondary A aquifers likely associated with the more permeable layers of limestone, in comparison with the less permeable mudstone formations most likely attributed to the Secondary B aquifers.

In general, the Site is classified as high groundwater vulnerability. The rationale behind this classification is likely associated with the lack of superficial deposits and the high productivity of the mapped limestone formations and its well-connected fractures across the Site extent.

The Site includes a WFD listed groundwater body *'Thaw and Cadoxtan Jurassic Lias*' (ID: GB41002G201400), the groundwater body is rated as '*good'* for chemical, quantitative and overall purposes.

No Source Protection Zones (SPZ) are recorded within 500m of the Site. There are no recorded groundwater abstractions on-site, but five (5) licensed groundwater abstractions recorded within 2km of the Site. The groundwater abstractions are summarised in Table 4-2.

Table 4-2 - Groundwater Abstractions within 2km radius

Location	Status	Abstraction Type
718m north	Active	Spray irrigation – direct
	Historical	Spray irrigation – direct
	Historical	Spray irrigation – direct
1,421m north-west	Active	Dewatering
1,724m north-west	Historical	General farming and domestic

4.3 HYDROLOGY

According to the Groundsure Report, ten hydrological features exist within the Site boundary, and an additional 16 within 250m of the Site boundary. Many of the inland rivers listed to be at ground surface and underground have formed within the undulating ground. These features were inspected during the Site walkover with no surface water identified to be present. However, it is noted that the Site inspection was undertaken during dry conditions in the month of June.

The main surface water features within the Site boundary are summarised in Table 4-3 and are presented in **Figure 2, Appendix A.**

Table 4-3 – Summary of Hydrological Features on-site

No. features	Type	Ground level	Water body catchment	Performance
6	Inland river not influenced by normal tidal action.	On ground surface	N/A	Watercourse contains water year-round under normal circumstances.
3		Underground		
1	Marsh, predominantly waterlogged by freshwater.	On ground surface	N/A	Watercourse contains water year-round under normal circumstances.

No WFD surface water bodies are listed to exist on-site, however, WFD surface water body catchments were listed to encompass the Site and are summarised in Table 4-4.

Table 4-4 - Summary of WFD Surface Water Catchments On-site

Type (ID if applicable)	Water body catchment	Management Catchment
Coastal catchment (333)	Not part of a river WB catchment	Thaw to Cadoxton
River WB catchment	Cadoxton – headwaters to tidal limit	Thaw to Cadoxton

4.4 FLOODING

The Groundsure Report flood mapping was reviewed and the risk to flooding on-site is summarised in Table 4-5.

Table 4-5 - Summary of Flood Risk on-site

Flood map type	Risk indication
River and coastal flooding	Not within a risk flood zone.
Surface water flooding	Highest risk 1 in 30 year, 0.3m – 1.0m
Groundwater flooding	Negligible

4.5 CLIMATE CHANGE

Future Climate Change under RCP8.5 Scenario

Sea Level Rise/Flood Risk

The Site is currently located approximately 150m from the Bristol Channel / Irish Sea and is at an elevation approximately 12 to 56m AOD. Under RCP8.5 sea level along the coast in proximity to the Site is projected to rise by 1.14m by 2100 (use the Met Office Marine Climate Change Projections website, the map is very low resolution) which could bring the sea within approximately 150m of the Site during spring tides or storm surges.

The Site is located outside a Flood Zone indicating it is at a negligible risk of flooding from rivers and the sea. Note that climate change may result in changes to the frequency of extreme weather events and associated flooding.

Projected Changes to Groundwater Level

The Site is located within Thaw & Cadoxtan Groundwater catchment which falls under the WFD definition of groundwater body. The eFLaG project far-future (2050-2079) projections for groundwater recharge within this catchment report a 0.4mm per day increase for the winter months for this groundwater body. No change to current recharge is indicated for other seasons. This indicates potential future increases in groundwater level, at least during winter, relative to the current baseline.

Far-future median projections were unable to be included due to no monitored borehole within the near vicinity of the Site.

4.6 UNEXPLODED ORDNANCE (UXO)

A risk map provided for WSP by Zetica UXO indicates that the Site is of low risk from UXO A copy of the risk map can be found in **Appendix E**.

4.7 RADON

A review of the UK Radon Maps and Groundsure Report indicates that the maximum risk level on Site is where 5-10% of properties have a radon level at or above the action level, although this relates to a very small area in the west of LP1. A risk of 3-5% of properties at or above the radon action level is identified across the western extent of LP1. A risk of 1-3% at or above the radon action level is identified in the east of LP2 and west of LP4. A risk of less than 1% at or above the radon action level is identified across the remainder of the Site.

4.8 MINING / NATURAL CAVITIES

A review of the Groundsure Report indicated four features listed in the British Pits database related to clay & shale and limestone that have all since ceased operation. The mapping indicated the presence of various surface ground workings which are summarised in Table 4-6.

Table 4-6 - Summary of Recorded Ground Workings

No. Features	Working type	Description and location
5	Unspecified quarry	First recorded in 1898, old quarries were in the eastern portions of the Site within LP3 and in the central portion LP2. Likely related to the mining of limestone with evidence of these quarries observed on Site in the form of overgrown vegetation with rock and waste material noted in soils surrounding the perimeter indicating backfilling.
3	Refuse/unspecified heap	First recorded in 1915, refuse/unspecified heaps were indicated in three locations related to the quarries in the eastern portion of Site (LP3). Likely associated with disused quarried material with evidence in the form of the above-mentioned quarries identified on Site.

2	Pond	First recorded in 1878, two ponds were recorded in the central and eastern portions of the Site. Likely related to the historical rural/agricultural use of the Site.
1	Cuttings	First recorded in 1947, located along the northern boundary of the eastern portion of the Site (LP3). Likely associated with the former railway line that runs alongside the northern boundary.

It is noted in the Groundsure Report that non-coal mining vein mineral mining is recorded on-site. The feature likelihood is described as *'Underground mine workings may have occurred in the past or current mines may have been 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'.*

Mining cavities that can result in hazardous subsidence due to degraded mines were indicated in one off-site location approximately 21m southwest of the Site boundary at Lavernock, South Glamorgan.

4.9 GROUND STABILITY

A review of the ground stability data presented in the Groundsure Report has been undertaken and is presented in Table 4-7. Based upon the Site walkover and geological understanding of the Site, the summary below is in agreement with the professional opinion of WSP from Site walkover observations.

Table 4-7 - Geological Hazards

Geological Hazards	Potential
Shrink Swell Clays	Negligible to low
Running Sand	Negligible to very low
Compressible Deposits	Negligible to very low
Collapsible Deposits	Very low
Landslides	Negligible to moderate
Ground dissolution of soluble rocks	Negligible to low

5 REGULATORY INFORMATION AND CONSULTATION

5.1 REGULATORY DATABASE

The Groundsure Report (presented in **Appendix F**) includes information and data collected from several organisations including the Environment Agency, the Local Authority, the British Geological Survey, Department for Environment, Food and Rural Affairs (DEFRA) and Health and Safety Executives (HSE). This is summarised in Table 5-1.

Table 5-1 – Summary of Database Search

Descriptor	On-site	0-50 m	50-500m	Details
Current / Recent Industrial Land Use	1	3	1	One record of current / recent industrial land use is located on-site relating to a disused lime kiln along the northwestern boundary. Four records of current industrial land use are listed within 50m of Site including an electrical substation located 4m southwest of the central Site boundary, an unspecified works, filter bed and a tank between approximately 10m north and 150m southeast.
Historical Industrial Land Use	35	26	62	On-site thirty-five records of historical industrial land use relating to railway sidings, unspecified old quarries and heaps, refuse heaps, old lime kilns, isolation hospital, cuttings, electric substations and unspecified works. The historical uses are concentrated in the following areas: ■ North-eastern boundary (LP3) - old quarry; ■ North-western boundary (LP1) - old lime kilns, cuttings, quarries; ■ Central northern boundary (LP1, LP2 and LP4) - railway siding; ■ Eastern portion (LP3) - isolation hospital, old lime kilns, refuse heaps; ■ Central portion (LP2) - old quarry and lime kilns; and ■ Southern central portion (LP2) - electric substation. Off-site land uses are present between 1m west and southwest to 499m northwest and relate to old quarries (unspecified and limestone), lime kilns, pits, cuttings, unspecified tanks, vineyards, filter beds, wind pump, ground workings, cement and lime works, unspecified and refuse heaps, tramway sidings, railway sidings, buildings and railway station.
Historical Tanks	0	2	7	Nine records of historical tanks are listed between 19m southeast and 203m south of the site, described as unspecified tanks. The historical tanks are first dated between 1900 and 1993.
Historical Energy Infrastructure	0	1	5	Six records of historical electrical substations are listed between 4m southwest and 497m northwest. The historical infrastructure is dated between 1968 and 1993.
Historical landfills (BGS/EA/NRW)	1	0	1	One record is listed of a historically licensed landfill located on-site along the north-eastern boundary listed under ‘Cosmeston No.1 Old Tip’. The license was issued in 1974 and subsequently surrendered in 1996, accepting inert, industrial, commercial, household and special environmental permitting regulation waste.

Descriptor	On-site	0-50 m	50-500m	Details
				Off-site, one recorded landfill at Lavernock Quarry located 164m northwest of Site is listed with an unspecified waste type and no risk to the underlying aquifer.
Waste exemptions	0	1	0	One record approximately 32m north relating to waste exemptions for burning waste in the open, associated with farming activities.
Licensed Discharges to Controlled Waters	0	1	11	One record located approximately 15 northwest which relates to the discharge of treated sewage effluent to ground. While eleven records between approximately 243m east and 459m north relate to the discharge of sewage or unspecified effluent to the Bristol Channel or Sully Brook. Nine of the eleven records have been revoked.
Pollution Incidents	0	0	3	Three records located approximately 189m southeast relating to sewage materials involving crude sewage, process effluent and other unspecified sewage material. This is associated with an outfall located on Lavernock Stony Beach to the southeast of the Site.

5.2 PLANNING HISTORY

A review of the Vale of Glamorgan planning portal identified a number of planning applications relating to the Site. No environmentally pertinent applications at the Site were identified, however; one application encompassing the land immediately to the northeast of the Site including the former landfill was identified and is summarised below:

- Application number: 2020/01170/OUT; *Outline application for residential development, a primary school, community space and public open space with all matters reserved other than access* Decision "Approve subject to legal agreement (outstanding)" decision date 22/03/2024.

A review of the document information for the above named planning applications shows that the following environmentally pertinent reports were produced for the Site:

- Arcadis, Cosmeston Farm Phase 1 Geo-environmental Desk Study, date February 2018 (herein referred to as Arcadis Phase 1, 2018);
- Arcadis, Comestone Phase 1 and Phase 2 Ground Investigation Report, dated February 2018 (gerein referred to as Arcadis GIR, 2018); and
- Arcadis, Cosmeston Farm Phase 1 Desk Study and Phase 2 Geo-environmental and Geotechnical Assessment Report, date July 2018 (herein referred to as Arcadis Phase 2, 2018).

Given the proximity to the subject sites, these reports have been reviewed by WSP and applicable information is summarised in the following sections.

5.2.1 ARCADIS PHASE 1 GEO-ENVIRONMENTAL DESK STUDY FEBRUARY 2018

Arcadis completed this report on behalf on the Welsh Government in the context of the proposed redevelopment of the area of the former landfill into residential housing with gardens and a school. The Site boundary was comprised or 4 fields neat Lower Cosmeston Farm, approximately 9km in area, immediately north of LP3.

The site history review indicates that there was a former quarry on this land on mapping 1920-1947, later shown with spoil heaps 1968-1974.

Potential sources confirmation identified included:

- Made Ground used to infill the historic quarry and in the spoil heaps;
- Localised area containing drums, containers and a tank;
- Off-site sources including a quarry and historic landfill east; Made Ground from the historical rail line; and fly tipped waste.

These sources were identified to pose a potential risk to human health though direct (i.e dermal contact, inhalation of dusts etc) and indirect (inhalation of ground gases) exposure pathways, as well as controlled waters, ecological receptors and infrastructure.

5.2.2 ARCADIS PHASE 1 AND PHASE 2 GROUND INVESTIGATION REPORT FEBRUARY 2018

Arcadis completed this report on behalf on the Welsh Government to confirm ground conditions and establish the soils material properties in the context of the proposed residential and school development.

An intrusive ground investigation was undertaken in two phases in September 2016 and December 2017 comprising the following:

Phase one

- Seven window samples boreholes to 3.00m bgl with monitoring well installs;
- Twenty-one trial pits to 3.50m bgl;
- Two rounds of post investigation monitoring

Phase two

- Three cable percussive boreholes to 10.00 m bgl in the area of the former quarry;
- Eight dynamic probe holes to 10.00m bgl in the area of the former quarry;
- Two plate load tests to 1.20m bgl;
- Four trial pits/soakaway locations to 3.00m bgl;
- Eleven window samples boreholes to 3.00m bgl;
- Twelve trial pits to 3.00m bgl;
- Three of post investigation monitoring.

Soil samples were obtained during both investigations and submitted for laboratory geotechnical and geoenvironmental testing.

5.2.3 ARCADIS PHASE 1 DESK STUDY AND PHASE 2 GEO-ENVIRONMENTAL AND GEOTECHNICAL ASSESSMENT REPORT JULY 2018

Arcadis completed this report on behalf on the Welsh Government to assist with the masterplanning stage of the proposed residential and school redevelopment.

This report summarised the findings of the Arcadis Phase 1 2018 and the Arcadis GIR 2018.

The report describes the ground conditions encountered during the intrusive investigation described in the Arcadis GIR 2018. Ground conditions are discussed in three areas of the Site; the general farmland, infilled quarry and historic landfill site. This is summarised below:

General farmland ground conditions:

- Topsoil to 0.30m of soft brown slightly sandy slightly gravelly clay;
- Solid geology – St Mary Wells member of yellowish brown slightly sandy slightly gravelly clay with low cobble content of mudstone to a maximum depth of 1.60m bgl. Below this weak to medium strong mudstone, underlain by stiff clay.

Infilled quarry ground conditions:

- Topsoil to 0.40m of soft brown slightly sandy slightly gravelly clay;
- Made Ground – variable across the land described as black gravel of clinker and ash; yellowish grey clay with fragments of brick. This is assumed to be the backfill for the former quarry. Dynamic probing indicated the former quarry may be deeper than 11.6m in parts.

Historic landfill ground conditions:

- Landfill waste described as containing plastic bags, plastic and glass fragments over lain by a variable cap of gravelly sand/ clayey sand to a maximum termination depth of 3.00m bgl (depth unproven).

Arcadis undertook a geo-environmental screening of soil laboratory results which indicated the following:

- Concentrations of arsenic and polycyclic aromatic hydrocarbons (PAHs) in the area of the infilled quarry above their residential screening criteria;
- Asbestos fibres (chrysotile) in one sample from in the infilled quarry.

Arcadis undertook a geo-environmental screening of groundwater laboratory results from monitoring wells inside the historic landfill area which indicated a concentration of lead above their water quality screening.
Arcadis provided a ground gas assessment in the context of the proposed residential redevelopment which indicated the following:

- Maximum carbon dioxide concentrations of 2.9% in the general farmland and 21.4% in the historic landfill;
- Maximum methane concentrations of 0.1% in general farmland and 37.2% in the historic landfill;
- Minimum oxygen concentrations of 0.0%
- Maximum gas flow rates of 0.7% in general farmland and 0.9%in the historic landfill area.

5.3 REGULATOR ENQUIRIES

Engagement with the following regulators was not undertaken as part of this assessment due the confidentially of the current scheme.

5.4 SENSITIVE LAND USES

Sensitive land uses were reviewed on the Site and the surrounding area, and this included the following designations summarised in **Table 5-2.**

Table 5-2 – Sensitive Land Uses

Sensitive land uses	Description
Sites of Special Interest (SSSI)	▪ Penarth Coast, on-site for geological and biological features. ▪ Severn Estuary located 23m northeast. ▪ Llynnoedd Cosmeston / Cosmeston Lakes, 195m north.
Conserved Wetland Sites (RAMSAR)	▪ Severn Estuary, 23m northeast.
Special Areas of Conservation	▪ Severn Estuary, 23m northeast.
Special Protection Areas	▪ Severn Estuary, 23m northeast.
Designated Ancient Woodlands	▪ Nearest located 901m north of Site.

6 PRELIMINARY CONCEPTUAL SITE MODEL

6.1 INTRODUCTION

The Conceptual Site Model (CSM) is based upon the environmental conditions of the Site as described in the previous sections. The methods used in this assessment followed a risk-based approach with the potential environmental risk assessed qualitatively using the 'source-pathway-receptor' contaminant linkages concept introduced in the guidance document (principally the Environment Agencies LCRM Guidance) on the practical implementation of the Environmental Protection Act 1990.

Environmental risk can be defined as the combination of the consequence of a harmful effect and the probability of its occurrence. The existing of a contaminant linkage is primarily dependant on Site usage and environmental conditions.

The environmental risk assessment has been carried out identifying and evaluating the significance of the following:

- Potential Sources of Contamination: these include any actual or activities of concern, located either on or in the vicinity of the Site;
- Potential Pathways: these are the routes or mechanisms by which CoC may migrate from the source to the receptor; and,
- Potential Receptors: these include current or future land users, activities or persons at the site that could be harmed by CoC.

6.2 POTENTIAL SOURCES OF CONTAMINATION

Table 6-1 provides a summary of the potential sources of contamination that may be present at the Site, as well as the likely distribution of such sources.

Table 6-1 – Potential Sources of Contamination

Potential Source	Potential Contaminants of Concern	Likely / Anticipated Distribution
ON-SITE		
Infilled features (i.e. old quarries, ponds and refuse heaps) comprising Made Ground	Asbestos, heavy metals, inorganics, Total Petroleum Hydrocarbons (TPH), Polyaromatic Hydrocarbons (PAH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), ground gases and vapours.	Areas of the eastern and central portions i.e. LP2 and LP3.
Former buildings (and possible old tanks)	Asbestos, heavy metals, TPH, PAH, VOCs.	Northeast of LP3
OFF-SITE		
Landfill - Cosmeston No.1 Old Tip / Made Ground	Asbestos, heavy metals, inorganics, TPH, PAH, BTEX, VOCs, ground gases and vapours.	Northeastern boundary
Electrical substation	PCBs and mineral oils	Southern boundary
Historical tanks	Heavy metals, inorganics, TPH, PAH, VOCs, ground gases / vapours.	South and southeast

Potential Source	Potential Contaminants of Concern	Likely / Anticipated Distribution
Former railway line / Lavernock Station	TPH, PAH, PCBs, VOCs, heavy metals and asbestos.	Along the northern boundary.

Whilst it is acknowledged that the use of fertilisers and pesticides associated with the current and historical use of the Site can pose a potential source of contamination to underlying soils and groundwater, given the wider agricultural setting of the area in which the site is located, this source is not considered to pose a substantial risk in the context of the proposed development (proposed solar farm).

6.3 POTENTIAL PATHWAYS

In the context of the proposed solar farm, the following potential exposure or migration pathways associated with the identified potential source(s) have been identified:

- Pathways to Human Health receptors:
  - Dermal contact with soils and groundwater;
  - Ingestion of dusts/soil particles;
  - Inhalation of dusts and fibres (on and off-Site receptors); and
  - Inhalation of hazardous ground gases/vapours.
- Pathways to Controlled Water receptors:
  - Leaching of contaminants through the unsaturated zone and subsequent impact to groundwater within the underlying aquifers; and
  - Lateral migration of contaminants within groundwater and subsequent impact of surface water receptors.
- Pathways applicable to site infrastructure:
  - Direct contact with contaminants (e.g., sulphates and hydrocarbons) in the soil and groundwater with below ground structures (electrical conduit and buried concrete); and
  - Accumulation of hazardous gases within below ground services in the future development (explosive risk).
- Pathways applicable to site plant life:
  - Direct contact with contaminants within soils and shallow groundwater.

6.4 POTENTIAL RECEPTORS

In the context of the future proposed solar farm development, the following potential receptors were identified:

Human Health

- Current and future Site users (limited to footpath users).

Controlled Waters

- Bedrock 1 (Secondary A Aquifer) associated with Lias Group;
- Bedrock 2 (Secondary B Aquifer) associated with Lias Group;

- Bedrock 3 (Principal Aquifer) associated with Triassic Rocks; and
- River (Undefined Inland River) located in the southern portion of LP2.

Services and Building Fabric

- Future below ground services (e.g. grid connection); and,
- Future electrical structures.

Designated Sensitive Sites

- SSSI Penarth Coast for geological and biological features; and
- Severn Estuary 23m northeast.

Receptors excluded from assessment

Construction and maintenance workers are not included as potential human health receptors within this assessment as potential risks will be covered with appropriate work control procedures. These are legal requirements under the Health and Safety at Work Act 1974, and associated regulations including Construction, Design and Management (CDM) Regulation 2015 to ensure suitable health and safety controls are in place during construction works.

The groundwater abstraction has been discounted as a controlled waters receptor due to its distance from the Site (718m to the north) and that is inferred to be up/cross gradient of the Site. Similarly, Cosmetson Lakes have been discounted due to its location c.195m north i.e. upgradient of the Site.

New areas of soft landscaping and associated plant life are not considered as a receptor on the basis that a suitable growing medium will be provided following completion of the stabilisation works for soft landscaped areas.

6.5 PRELIMINARY CONCEPTUAL SITE MODEL

The CSM identifies the potential contamination sources, receptors, and the exposure pathways by which they may be linked. A Source-Pathway-Receptor linkage (SPRL) is present if a viable pathway exists between a potential source and an identified receptor.

The preliminary CSM and explanation of the risk characterisation process is presented as **Appendix B.** A summary of potential contaminant linkages identified in the preliminary CSM is provided **Table 6-2.**

Table 6-2 – Plausible Contaminant Linkages

Potential Source	Pathway	Receptor	Probability	Severity	Comments
ON-SITE					
Infilled features (i.e. refuse heaps and old quarries)	Direct contact with soil and inhalation of dusts and fibres from Made Ground.	Current and future site users	Unlikely	Medium	**Low Risk** The historical mapping identifies a number of former quarries and refuse heaps on Site. During the walkover Made Ground was observed in these areas (i.e. bricks, metal, glass, plastics). Based on the proposed development and layout, and limited earthworks, the exposure to human health would be limited and as such the potential risk to human health through direct exposure is considered to be Low.
	Volatilisation from VOC impacted soils, migration through the unsaturated zone and subsequent vapour inhalation (outdoor air).	Current and future site users	Unlikely	Medium	**Low Risk** The presence of infilled features within the Site boundary results in the potential for ground gas and vapour generation. Ground gas and vapours have the potential to accumulate in confined spaces and may pose a risk of asphyxiation or explosion. Based on the assumption that the proposed development does not have enclosed structures, and the limited exposure period, the risk from ground gas and vapours to future site users, works and visitors is considered to be low. However, if enclosed structures are included this risk should be reassessed.
	Leaching of contaminants in soil to groundwater and laterally migration to surface water features.	Principal Aquifers, Secondary A Aquifer and Secondary B Aquifers Unnamed inland river (on-site)	Likely	Medium	**Moderate Risk** As above, the historical mapping identifies a number of former quarries on the Site and during the walkover Made Ground was visually identified at surface level in these areas. BGS mapping indicates that superficial deposits are lacking across much of the Site, and that it is directly underlain by Principal/ Secondary A Aquifers which as considered to have relatively high permeability allowing vertical and lateral migration of contaminants. As such, the risk to controlled waters is considered to be Moderate.
Former buildings	Direct contact with soil and inhalation of dusts and fibres.	Current and future site users	Unlikely	Medium	**Low Risk** Former buildings were identified to have previously existed in two locations in the eastern portion of the Site (LP3) associated with an isolation hospital and an unspecified dwelling. Limited evidence of the former buildings was observed during the Site inspection with both locations significantly overgrown making inspection of the ground surfaces difficult. Based on the proposed development and layout, there is considered to be limited exposure risk from soils within the former building footprints and site users and therefore the potential risk to human health would be Low.
	Leaching of contaminants in soil to groundwater and laterally migration to surface water features.	Principal Aquifers, Secondary A Aquifer and Secondary B Aquifers Unnamed inland river (on-site)	Low Likelihood	Medium	**Low / Moderate Risk** Whilst there is potential for Made Ground associated with the demolition of the former buildings in the eastern portion of the Site, based on the localised nature within the wider Site this is not considered to pose a substantial risk to controlled waters.
OFF-SITE					

Potential Source	Pathway	Receptor	Probability	Severity	Comments
Landfill - Cosmeston No.1 Old Tip / Made Ground	Inhalation / ingestion of windblown dusts Migration of contaminants in groundwater and subsequent volatilisation through the unsaturated zone and subsequent vapour inhalation.	Current and future site users	Likely	Medium	**Moderate Risk** A recent ground investigation undertaken on the former “Cosmeston No. 1 Tip” shown a landfill waste containing plastic bags, plastic and glass to a termination depth of 3.00 m bgl (depth unproven). Analysis indicated the presence of TPH, PAH and heavy metals. Furthermore, ground gas monitoring data shows high concentrations of carbon dioxide (21.4%) and methane (37.2%) and low concentrations of oxygen (0%). Whilst there is the potential for ground gases to migrate through preferential pathways, based on the proposed development works and the low likelihood of confined spaces during construction or end use the risk is considered to be moderate.
	Vertical and lateral migration of contaminants in groundwater impacting on-site aquifers.	Principal Aquifers, Secondary A Aquifer and Secondary B Aquifers	Likely	Medium	**Moderate Risk** As above, a previous ground investigation has been undertaken on the historic landfill to the north. Whilst contamination of groundwater was shown to be limited to elevated lead, only a small number of samples were obtained. As such, the potential risk for the migration og contamination from the landfill, down gradient to groundwater underlying the Site is considered to be Moderate.
Electrical substation	Inhalation / ingestion of windblown dusts Vertical and lateral migration of contaminants in groundwater and subsequent volatilisation through the unsaturated zone and subsequent vapour inhalation.	Current and future site users Principal Aquifers, Secondary A Aquifer and Secondary B Aquifers	Unlikely	Medium	**Low Risk** The former presence of the electrical substation within the adjacent property to the south of Site is considered to have a low likelihood of risk to human health based on the proposed development. Whilst there is potential for legacy contamination to migrate, it is not considered likely to impact receptors on Site.
Historical tanks	Vertical and lateral migration of contaminants in groundwater and subsequent volatilisation through the unsaturated zone and subsequent vapour inhalation.	Current and future site users Principal Aquifers, Secondary A Aquifer and Secondary B Aquifers	Unlikely	Medium	**Low Risk** The former presence of the historical tanks within the adjacent property to the south of Site is considered to have a low likelihood of risk to human health based on the proposed development. Whilst there is potential for legacy contamination to migrate, it is not considered likely to impact receptors on-site.
Former railway line / Lavernock Station	Inhalation / ingestion of windblown dusts	Current and future site users	Unlikely	Medium	**Low Risk** The former railway line infrastructure has since been removed with the raised embankment the only visible indicator, with former Lavernock Station now residential dwellings. Whilst there is potential for legacy contamination to migrate, it is not considered likely to impact receptors on-site.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

WSP UK Limited (WSP) was instructed by Trydan Gwyrdd Cymru Ltd 'The Client' to undertake a Preliminary Risk Assessment (PRA) to support the development of the proposed Upper Cosmeston Solar PV plant approximately 3km south of Penarth, Vale Glamorgan, South Wales.

The Site is currently, and predominantly in the past, been subject to low-intensity agricultural (i.e. cropping and grazing) purposes. The main historical use other than agriculture is old limestone quarrying and associated limekilns, which were generally identified in three locations on-site during a review of historical mapping and confirmed during the Site walkover.

The underlying geology comprises a combination of Tournaisian to Hettangian aged mudstone, limestone and dolomitised limestone formations. This is encompassed by Principal and Secondary A/B aquifers designated across the Site extents, with the western extents considered capable of providing high levels of water storage and supporting water supply and river base flow.

The nearest surface water feature is an unnamed inland river in the south of the Site, that does not appear to be hydraulically connected to any major surface watercourse.

The following potentially contaminative sources have been identified on Site:

- TPH, PAH, VOCs, heavy metals, asbestos and ground gases and vapours associated with infilled quarries and refuse heaps; and
- Heavy metals and asbestos associated with former buildings.

The risks posed to human health receptors and controlled waters from the potential sources of contamination identified on Site is considered to be low, based on the proposed development and the layout situated outside the areas of identified Made Ground.

The presence of the landfill situated alongside the northeastern boundary is considered to present a moderate risk to the future development considerations for construction workers due the limited information regarding the landfill and reports that previous investigations identified the presence of TPH, PAH and heavy metals as well as levels of ground gases across the landfill extent that would require protection measures. The risk is not considered to be high based on the proposed development not consisting of buildings or confined spaces where ground gases could accumulate and pose a risk to future workers or Site users.

7.2 RECOMMENDATIONS

Based on the findings of this report, WSP concludes that the pertinent geo-environmental risks related to the Site are likely to come from the former quarrying, refuse heaps and their subsequent infilling with waste material. Furthermore, the potential risk of ground gases associated with the infilling and the landfill situated immediately off Site to the north.

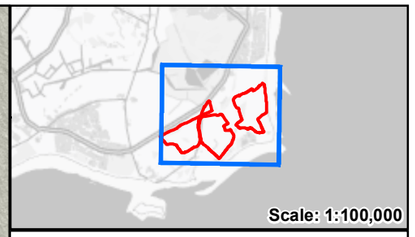
An intrusive ground investigation is recommended for areas of potential Made Ground associated with infilling and former building footprints to provide data to further characterise any contaminated land risk present. The ground investigation will also help characterise the underlying conditions to aid in the design and risk assessment of foundations and earthworks for the proposed solar farm.

In the event that buildings are included within the proposed development consideration will need to be taken to investigate the risks posed from potential ground gases associated with the infilling at the Site and the off Site landfill to the north.

Appendix A

FIGURES





Key

Site Boundary

CONTAINS OS DATA © CROWN COPYRIGHT [AND DATABASE RIGHT] [2021].

REVISION	DRAWN	CHECKED	APPROVED	DATE
P01	DP	LS	SS	01/07/2025

DESCRIPTION: FIRST DRAFT ISSUE

wsp

PROJECT TITLE:

UPPER COSMESTON
PROPOSED SOLAR PV PLANT
PRELIMINARY RISK ASSESSMENT

DRAWING TITLE:

SITE LOCATION

CONFIDENTIALITY

CONFIDENTIAL

DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
WG	XX	XX	XX

SCALE @ A3 SIZE:	DATE:	REVISION:
1:5,644	01/07/2025	P01

DRAWING NUMBER:

FIGURE 1

C:\Users\GBWG143565\Documents\ArcGIS\Upper Cosmeston PRA\UK0028363.7660 - Fig1_SiteLocation_WG.mxd

N

Former Landfill

Former Buildings

Former Railway Line

Former Lavernock Station

Old Quarry / Refuse Heap. Assumed backfilled

LP3

Bare ground

Bare ground

LP4

Manure Pile

Former Isolation Hospital

LP2

Old Quarry, now backfilled

LP1

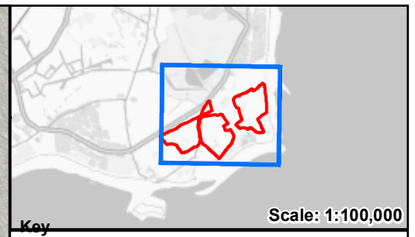
Manure Pile

Former Electrical Substation

0 45 90 180 270 360 450

Meters

C:\Users\GBWG143565\Documents\ArcGIS\Upper Cosmeston PRA\UK0028363.7660 - Fig2_SiteFeatures_WG.mxd



Scale: 1:100,000

Key

- Features
- Site Boundary
- Surface Water Bodies
- Historic Railway Line

CONTAINS OS DATA © CROWN COPYRIGHT [AND DATABASE RIGHT] [2021].

wsp

PROJECT TITLE:

UPPER COSMESTON
PROPOSED SOLAR PV PLANT
PRELIMINARY RISK ASSESSMENT

DRAWING TITLE:

CURRENT LAYOUT WITH IDENTIFIED FEATURES

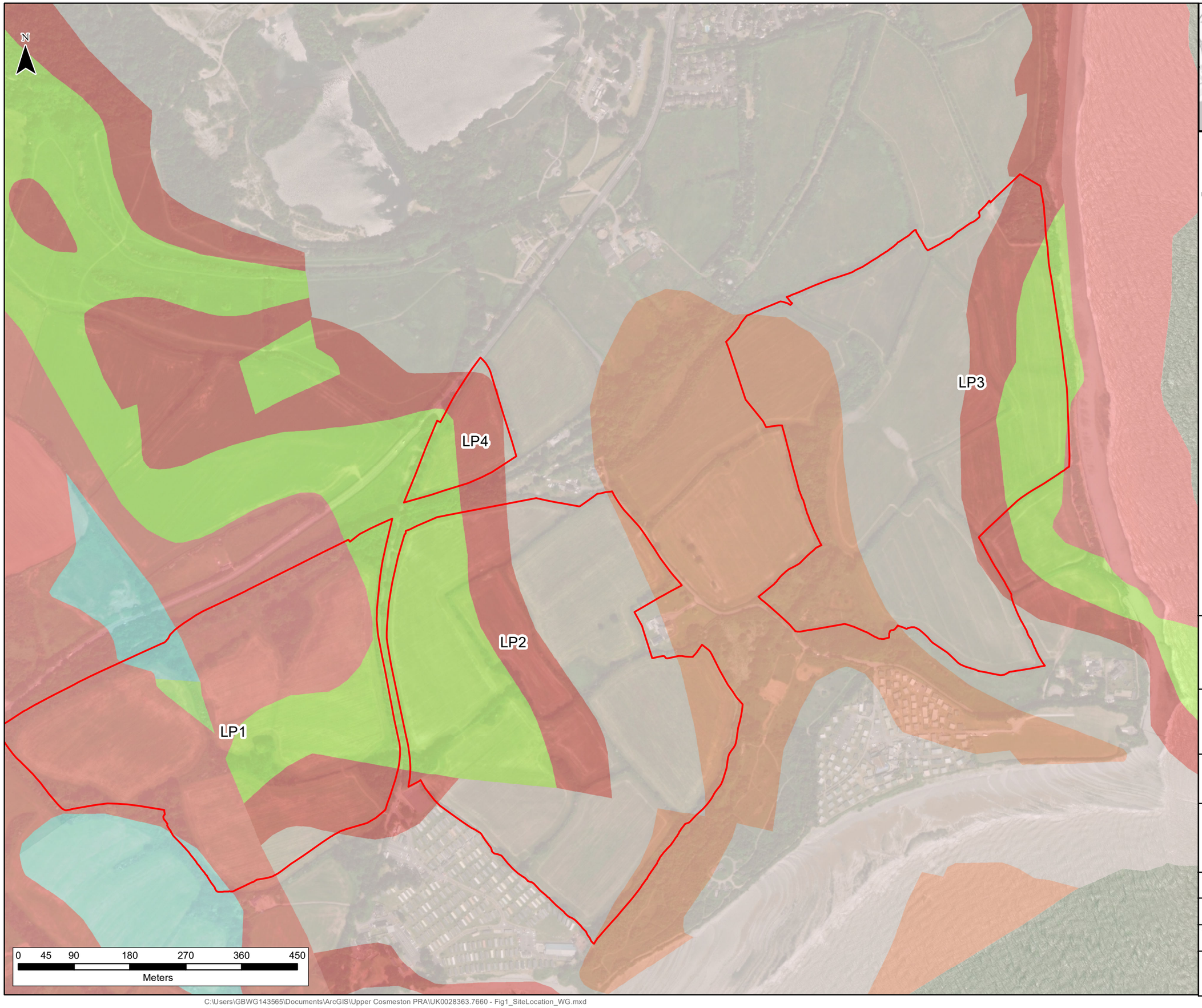
CONFIDENTIALITY: CONFIDENTIAL

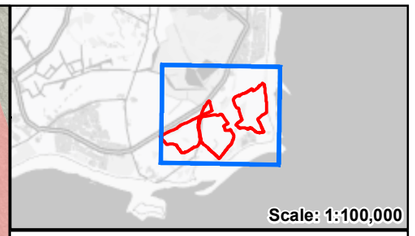
DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
WG	KW	AI	AI

SCALE @ A3 SIZE:	DATE:	REVISION:
1:5,644	01/07/2025	C01

DRAWING NUMBER:

FIGURE 2





Key

Site Boundary

Bedrock geology 1:50,000 scale

- GOBLIN COMBE OOLITE FORMATION - LIMESTONE, OOIDAL
- GULLY OOLITE FORMATION - LIMESTONE, OOIDAL
- BARRY HARBOUR LIMESTONE FORMATION - LIMESTONE
- FRIARS POINT LIMESTONE FORMATION - LIMESTONE
- PORTHKERRY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED
- ST MARY'S WELL BAY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED
- FLAT HOLM LIMESTONE MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED
- CASTELL COCH LIMESTONE FORMATION - LIMESTONE, OOIDAL
- HIGH TOR LIMESTONE FORMATION - LIMESTONE
- CWMYNISCOY MUDSTONE FORMATION - MUDSTONE AND LIMESTONE, INTERBEDDED
- TONGWYNLAIS FORMATION - LIMESTONE AND MUDSTONE, INTERBEDDED
- AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED
- LAVERNOCK SHALES MEMBER - MUDSTONE
- MERCIA MUDSTONE GROUP - MUDSTONE AND HALITE-STONE
- MERCIA MUDSTONE GROUP - MUDSTONE
- MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE
- QUARTZ CONGLOMERATE GROUP (SOUTH WALES) - SANDSTONE AND CONGLOMERATE, INTERBEDDED
- BARRY HARBOUR LIMESTONE FORMATION - DOLOMITISED LIMESTONE AND DOLOMITE
- FRIARS POINT LIMESTONE FORMATION - DOLOMITISED LIMESTONE AND DOLOMITE
- PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED
- BLUE ANCHOR FORMATION - MUDSTONE

CONTAINS OS DATA © CROWN COPYRIGHT [AND DATABASE RIGHT] [2021].

wsp

PROJECT TITLE:
UPPER COSMESTON
PROPOSED SOLAR PV PLANT
PRELIMINARY RISK ASSESSMENT

DRAWING TITLE:
GEOLOGY MAP

CONFIDENTIALITY
CONFIDENTIAL

DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
WG	KW	AI	AI
SCALE @ A3 SIZE:		**DATE:**	**REVISION:**
1:5,644		11/07/2025	P01

DRAWING NUMBER:
FIGURE 3

C:\Users\GBWG143565\Documents\ArcGIS\Upper Cosmeston PRA\UK0028363.7660 - Fig1_SiteLocation_WG.mxd

Appendix B

CIRA GUIDANCE ON CONTAMINATED LAND RISK

CIRIA C552 RISK ASSESSMENT

The identification of potential pollutant linkages is a key aspect of the evaluation of potentially contaminated land. An approach based on the UK CIRIA 552 report C552 (Contaminated Land Risk Assessment: A Guide to Good Practice, 2001) has been adopted within this report. The assessment considers which source – pathway – receptor pollutant linkages are likely to be plausible and potentially complete, and the potential risk they represent. For each of the pollutant linkages, an estimate of:

- the potential severity (consequence) of the risk, and
- the probability (likelihood) of the risk occurring

has been undertaken to assess the potential risk associated with a complete pollutant linkage.

Table 1 – Classification of consequence (CIRIA C552, 2001)

Classification	Category	Definition	Examples
Severe Short term (acute) risks only	Humans	Short term (acute) risk to human health likely to result in "significant harm" as defined by the Environmental Protection Act 1990, Part 2a	High concentrations of cyanide on the surface of an informal recreation area
	Controlled Waters	Short term risk of pollution of sensitive water resource	Major spillage of contaminants from site into controlled waters
	Property	Catastrophic damage to buildings / property	Explosion causing building collapse
	Ecological Systems	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 a site exceed the generic or site-specific assessment criteria
	Controlled Waters	Pollution of sensitive water resources	Leaching of contaminants from a site into a Principal or Secondary A aquifer
	Ecological Systems	Significant change in a particular ecosystem or organism forming part of such ecosystem	Death of a species within a designated nature reserve
Mild Chronic (long term) risks; less sensitive receptors	Controlled Waters	Pollution of non-sensitive water resources	Pollution of non-classified surface watercourse
	Property	Significant damage to buildings, structures, crops and services ("significant harm" as defined in DEFRA, 2006) and damage to sensitive buildings / structures and services	Foundation damage to a building rendering it unsafe to occupy due to instability
	Ecological Systems	Damage to the environment	
Minor Chronic (long term) risk; mild	Humans	Non-permanent health effects to human health that are easily prevented by the use of PPE	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	Discoloration of concrete
	Financial / Project	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve	

Table 2 – Classification of probability (CIRIA C552, 2001)

Classification	Definition
High likelihood	There is a pollutant 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 pollutant 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 pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even or a longer period such an event would take place, and is less likely in the shorter term.
Unlikely	There is a pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Table 3 – Comparison of consequence against probability (CIRIA C552, 2001)

	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Low / Moderate Risk
Likely	High Risk	Moderate Risk	Low to Moderate Risk	Low Risk
Low Likelihood	Moderate Risk	Low / Moderate Risk	Low Risk	Very Low Risk
Unlikely	Low / Moderate Risk	Low Risk	Very Low Risk	Very Low Risk

Table 4 - Risk classification descriptions (CIRIA C552, 2001)

Risk Classification	Definition
Very high risk	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 risk	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 risk	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 undertaken already) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low risk	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 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.

Appendix C

GENERAL LIMITATIONS

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.

3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.

4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.

6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.

8. WSP UK Limited does not warrant work / data undertaken / provided by others.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:

- **i.** The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
- **ii.** Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.

16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated

with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.

19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.

20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.

25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.

28. The data is presented and will be compared with assessment criteria.

Appendix D

PHOTOLOG

UPPER COSMESTON PRELIMINARY RISK ASSESSMENT – APPENDIX D

Site Walkover Photolog

26 JUNE 2025



Photo 1: Manure Pile at entrance to field located in LP2



Photo 2: View of field within LP2 facing southeast, evident cropping use



Photo 3: View of field within LP2 facing east, evident cropping use



Photo 4: View of field within LP2 south, evident cropping use



Photo 5: Old quarry within LP2 facing southwest, heavily overgrown



Photo 6: Old quarry within LP2 facing east, heavily overgrown, evidence of made ground and waste



Photo 7: Old quarry within LP2 facing east, evidence of waste rock



Photo 8: Old quarry within LP2 facing east, evidence of waste / made ground



Photo 9: Area of old Isolation hospital in LP3, facing north



Photo 10: Area of old Isolation hospital in LP3, facing northeast



Photo 11: Fields in LP3 along the coastline



Photo 12: Brick located in surface soils in LP3



Photo 13: Northeastern field in LP3



Photo 14: Area of former houses in northeast LP3



Photo 15: Old farm equipment in area of former houses in northeast LP3.



Photo 16: Area of former houses in northeast LP3.



Photo 17: Wooden planks in surface soils in area of former houses in northeastern LP3



Photo 18: Western adjacent fields in northern extent of LP3



Photo 19: Western adjacent fields in northern extent of LP3



Photo 20: Site boundary in LP3 with the former off-site landfill



Photo 21: Site boundary in LP3 with the former off-site landfill



Photo 22: Former quarry area in LP3, heavily vegetated with raised ground.



Photo 23: Bare ground in western portion of LP3 alongside the former quarry refuse area.



Photo 24: Fields in LP1.



Photo 25: Manure pile in LP1.



Photo 26: Northern field in LP1



Photo 27: Far northern field in LP1.



Photo 28: Northern field in LP1 – evident cropping



Photo 29: Western fields in LP2



Photo 30: Western fields in LP2



Photo 31: Former railway line running parallel with the northern boundary of LP2



Photo 32: Field in LP4 – evident cropping use

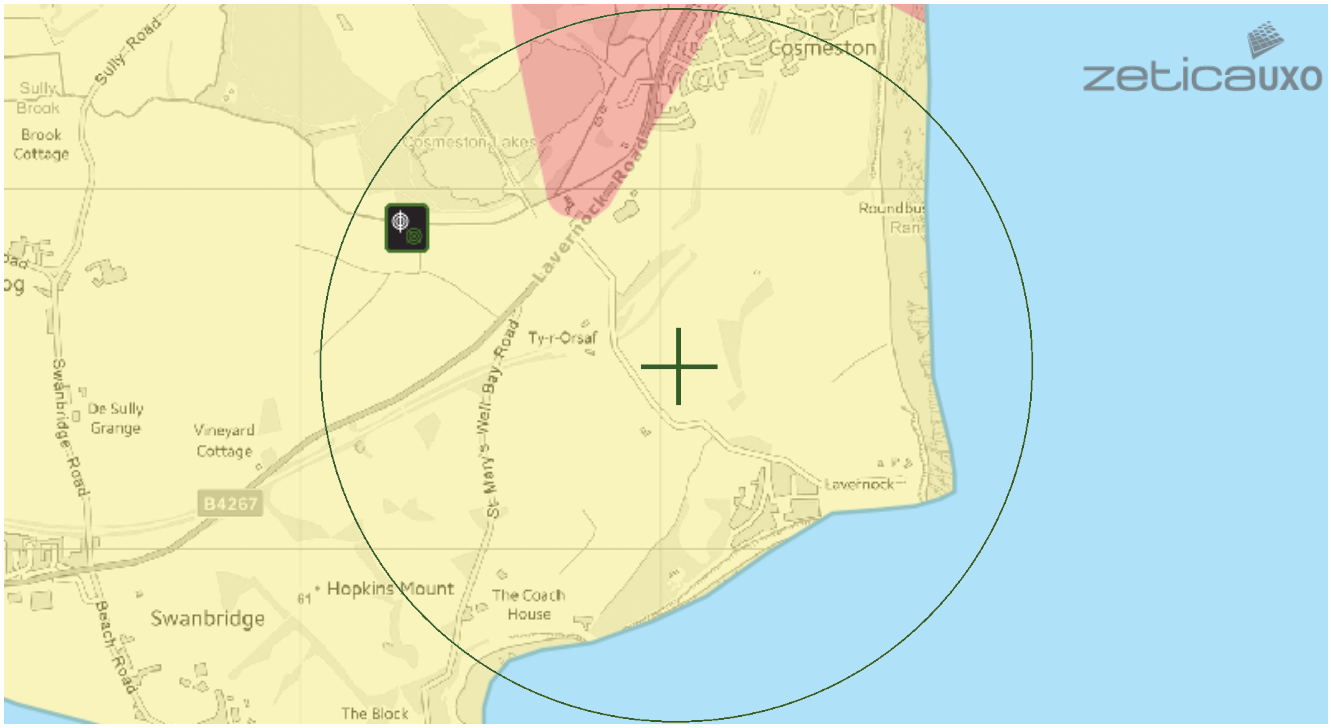
Appendix E

UXO RISK MAPPING

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Map Centre: 318017,168515



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

Miltary | **Industry** | **UXO find** | **Other**

Transport | **Docks** | **Luftwaffe targets**

Utilities | **Bombing decoy** | **Airfields**

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

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density.
Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then additional detailed research is recommended.

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

If both the map and other research confirm 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.

If you are unsure whether other sources of UXO may be present, you can request one of our pre-desk study assessments (PDSA) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

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 range of sources and should be used with the accompanying notes on our website.

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

Appendix F

GROUNDSURE REPORT

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Combined areas

Order Details

Date: 25/06/2025

Your ref: UK0028363.7660 - 161

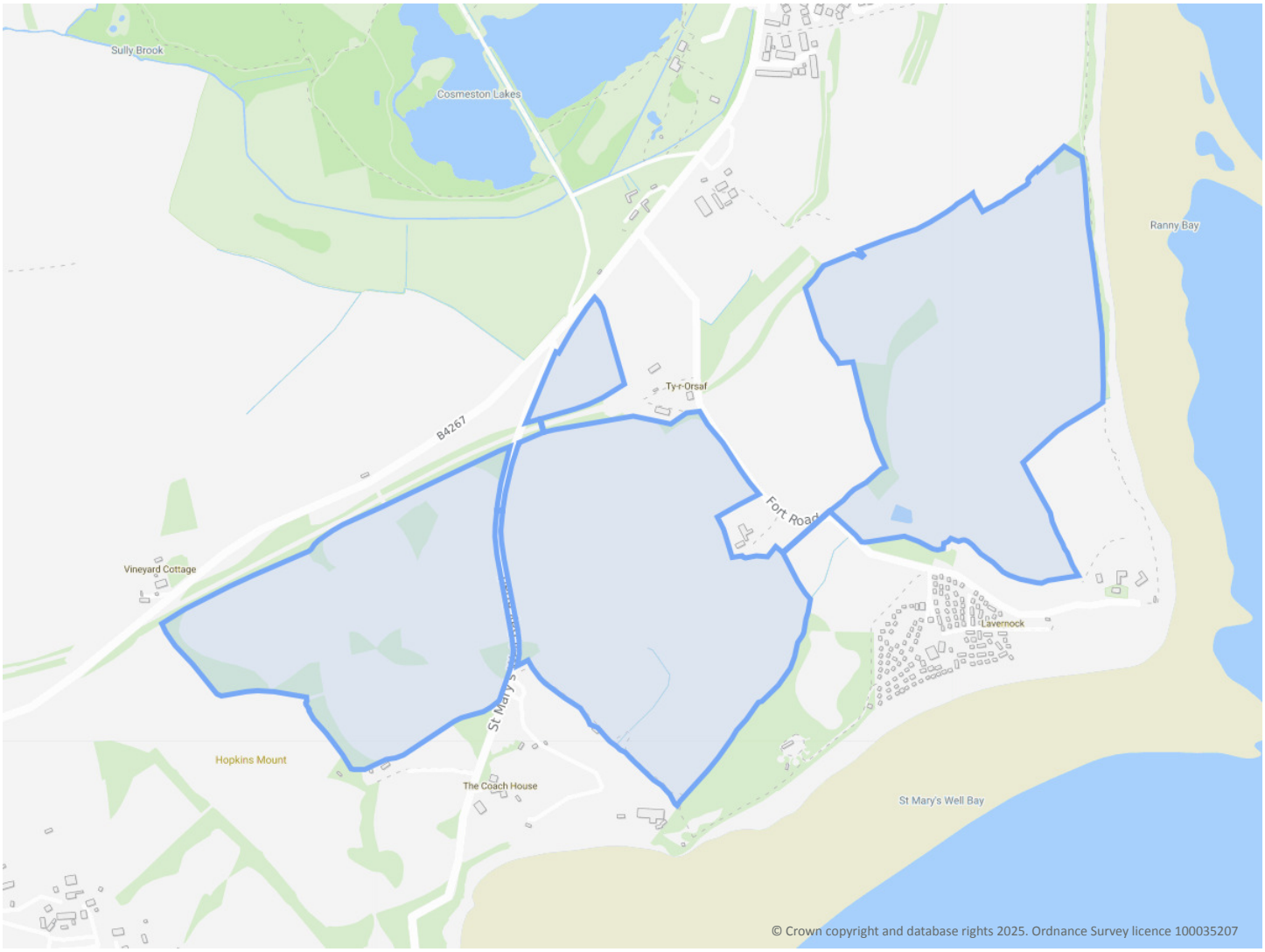
Our Ref: WSP-XAM-7IS-ICL-FNG

Site Details

Location: 317851 168359

Area: 77.58 ha

Authority: Bro Morgannwg - Vale of Glamorgan Council ↗



Summary of findings p. 2 >

Aerial image p. 9 >

OS MasterMap site plan N/A: >10ha

Insight User Guide ↗

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

Certified B Corporation

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 >	30	31	34	28	-
19 >	1.2 >	Historical tanks >	0	2	3	0	-
20 >	1.3 >	Historical energy features >	0	1	2	2	-
20	1.4	Historical petrol stations	0	0	0	0	-
20	1.5	Historical garages	0	0	0	0	-
21	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
22 >	2.1 >	Historical industrial land uses >	44	41	42	32	-
28 >	2.2 >	Historical tanks >	0	2	7	0	-
29 >	2.3 >	Historical energy features >	0	1	2	3	-
29	2.4	Historical petrol stations	0	0	0	0	-
30	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
31	3.1	Active or recent landfill	0	0	0	0	-
31 >	3.2 >	Historical landfill (BGS records) >	0	0	1	0	-
32	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
32 >	3.4 >	Historical landfill (EA/NRW records) >	1	0	0	0	-
32	3.5	Historical waste sites	0	0	0	0	-
33	3.6	Licensed waste sites	0	0	0	0	-
33 >	3.7 >	Waste exemptions >	0	1	0	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
34 >	4.1 >	Recent industrial land uses >	1	3	1	-	-
35	4.2	Current or recent petrol stations	0	0	0	0	-
35	4.3	Electricity cables	0	0	0	0	-
35	4.4	Gas pipelines	0	0	0	0	-
35	4.5	Sites determined as Contaminated Land	0	0	0	0	-

36	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
36	4.7	Regulated explosive sites	0	0	0	0	-
36	4.8	Hazardous substance storage/usage	0	0	0	0	-
36	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
36	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
37	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
37	4.12	Radioactive Substance Authorisations	0	0	0	0	-
37 >	**4.13 >**	**Licensed Discharges to controlled waters >**	0	1	1	10	-
39	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
39	4.15	Pollutant release to public sewer	0	0	0	0	-
39	4.16	List 1 Dangerous Substances	0	0	0	0	-
39	4.17	List 2 Dangerous Substances	0	0	0	0	-
40 >	**4.18 >**	**Pollution Incidents (EA/NRW) >**	0	0	3	0	-
40	4.19	Pollution inventory substances	0	0	0	0	-
40	4.20	Pollution inventory waste transfers	0	0	0	0	-
41	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
42 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
44 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
46 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
50 >	**5.4 >**	**Groundwater vulnerability- soluble rock risk >**	Identified (within 0m)				
50	5.5	Groundwater vulnerability- local information	None (within 0m)				
51 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	5
53	5.7	Surface water abstractions	0	0	0	0	0
53	5.8	Potable abstractions	0	0	0	0	0
53	5.9	Source Protection Zones	0	0	0	0	-
53	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
54 >	**6.1 >**	**Water Network (OS MasterMap) >**	10	4	15	-	-

57 >	6.2 >	Surface water features >	1	2	7	-	-
57 >	6.3 >	WFD Surface water body catchments >	2	-	-	-	-
58 >	6.4 >	WFD Surface water bodies >	0	0	2	-	-
58 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
60	7.2	Historical Flood Events	0	0	0	-	-
60	7.3	Flood Defences	0	0	0	-	-
60	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
60	7.5	Flood Storage Areas	0	0	0	-	-
61 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
62 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
63 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
65 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
66 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	1	1	1	0	2
67 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	1	0	0	1
70 >	10.3 >	Special Areas of Conservation (SAC) >	0	1	0	0	0
70 >	10.4 >	Special Protection Areas (SPA) >	0	1	0	0	1
71	10.5	National Nature Reserves (NNR)	0	0	0	0	0
71 >	10.6 >	Local Nature Reserves (LNR) >	0	1	0	0	0
71 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	5
72	10.8	Biosphere Reserves	0	0	0	0	0
72	10.9	Forest Parks	0	0	0	0	0
72	10.10	Marine Conservation Zones	0	0	0	0	0
72	10.11	Green Belt	0	0	0	0	0
72	10.12	Proposed Ramsar sites	0	0	0	0	0

73	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
73	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
73	10.15	Nitrate Sensitive Areas	0	0	0	0	0
73	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
74 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
75	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
76	11.1	World Heritage Sites	0	0	0	-	-
77	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
77	11.3	National Parks	0	0	0	-	-
77 >	11.4 >	Listed Buildings >	0	0	2	-	-
78	11.5	Conservation Areas	0	0	0	-	-
78 >	11.6 >	Scheduled Ancient Monuments >	0	0	3	-	-
78	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
80	12.2	Open Access Land	0	0	0	-	-
80	12.3	Tree Felling Licences	0	0	0	-	-
81	12.4	Environmental Stewardship Schemes	0	0	0	-	-
81	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
82	13.1	Priority Habitat Inventory	0	0	0	-	-
82	13.2	Habitat Networks	0	0	0	-	-
82	13.3	Open Mosaic Habitat	0	0	0	-	-
82	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
83 >	14.1 >	10k Availability >	Identified (within 500m)				
84	14.2	Artificial and made ground (10k)	0	0	0	0	-
85	14.3	Superficial geology (10k)	0	0	0	0	-

85	14.4	Landslip (10k)	0	0	0	0	-
86	14.5	Bedrock geology (10k)	0	0	0	0	-
86	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
87 >	15.1 >	50k Availability >	Identified (within 500m)				
88 >	15.2 >	Artificial and made ground (50k) >	2	2	0	0	-
89 >	15.3 >	Artificial ground permeability (50k) >	1	2	-	-	-
90 >	15.4 >	Superficial geology (50k) >	0	0	3	6	-
91	15.5	Superficial permeability (50k)	None (within 50m)				
91	15.6	Landslip (50k)	0	0	0	0	-
91	15.7	Landslip permeability (50k)	None (within 50m)				
92 >	15.8 >	Bedrock geology (50k) >	17	0	6	12	-
94 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
95 >	15.10 >	Bedrock faults and other linear features (50k) >	3	0	6	9	-
Page	Section	**Boreholes >**	On site	0-50m	50-250m	250-500m	500-2000m
97 >	16.1 >	BGS Boreholes >	2	0	12	-	-
Page	Section	**Natural ground subsidence >**					
99 >	17.1 >	Shrink swell clays >	Low (within 50m)				
101 >	17.2 >	Running sands >	Very low (within 50m)				
103 >	17.3 >	Compressible deposits >	Very low (within 50m)				
105 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
106 >	17.5 >	Landslides >	Moderate (within 50m)				
108 >	17.6 >	Ground dissolution of soluble rocks >	Low (within 50m)				
Page	Section	**Mining and ground workings >**	On site	0-50m	50-250m	250-500m	500-2000m
110 >	18.1 >	BritPits >	4	3	8	7	-
116 >	18.2 >	Surface ground workings >	35	26	24	-	-
119	18.3	Underground workings	0	0	0	0	0
120	18.4	Underground mining extents	0	0	0	0	-
120 >	18.5 >	Historical Mineral Planning Areas >	7	1	5	7	-

121 >	18.6 >	Non-coal mining >	2	0	0	0	0
121	18.7	JPB mining areas	None (within 0m)				
122	18.8	The Coal Authority non-coal mining	0	0	0	0	-
122	18.9	Researched mining	0	0	0	0	-
122	18.10	Mining record office plans	0	0	0	0	-
122	18.11	BGS mine plans	0	0	0	0	-
123	18.12	Coal mining	None (within 0m)				
123	18.13	Brine areas	None (within 0m)				
123	18.14	Gypsum areas	None (within 0m)				
123	18.15	Tin mining	None (within 0m)				
123	18.16	Clay mining	None (within 0m)				
Page	Section	**Ground cavities and sinkholes** >	On site	0-50m	50-250m	250-500m	500-2000m
124	19.1	Natural cavities	0	0	0	0	-
125 >	19.2 >	Mining cavities >	0	1	0	0	0
125	19.3	Reported recent incidents	0	0	0	0	-
125	19.4	Historical incidents	0	0	0	0	-
Page	Section	**Radon** >					
126 >	20.1 >	Radon >	Between 5% and 10% (within 0m)				
Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
128 >	21.1 >	BGS Estimated Background Soil Chemistry >	58	18	-	-	-
132	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
133	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
134	22.1	Underground railways (London)	0	0	0	-	-
134	22.2	Underground railways (Non-London)	0	0	0	-	-
135	22.3	Railway tunnels	0	0	0	-	-
135 >	22.4 >	Historical railway and tunnel features >	9	5	9	-	-
136	22.5	Royal Mail tunnels	0	0	0	-	-
136 >	22.6 >	Historical railways >	1	6	3	-	-

137	22.7	Railways	0	0	0	-	-
137	22.8	Crossrail 2	0	0	0	0	-
137	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 15/06/2022

Site Area: 77.58ha

Recent site history - 2019 aerial photograph



Capture Date: 18/09/2019

Site Area: 77.58ha

Recent site history - 2013 aerial photograph



Capture Date: 14/07/2013

Site Area: 77.58ha

Recent site history - 2009 aerial photograph



Capture Date: 17/09/2009

Site Area: 77.58ha

Recent site history - 2000 aerial photograph

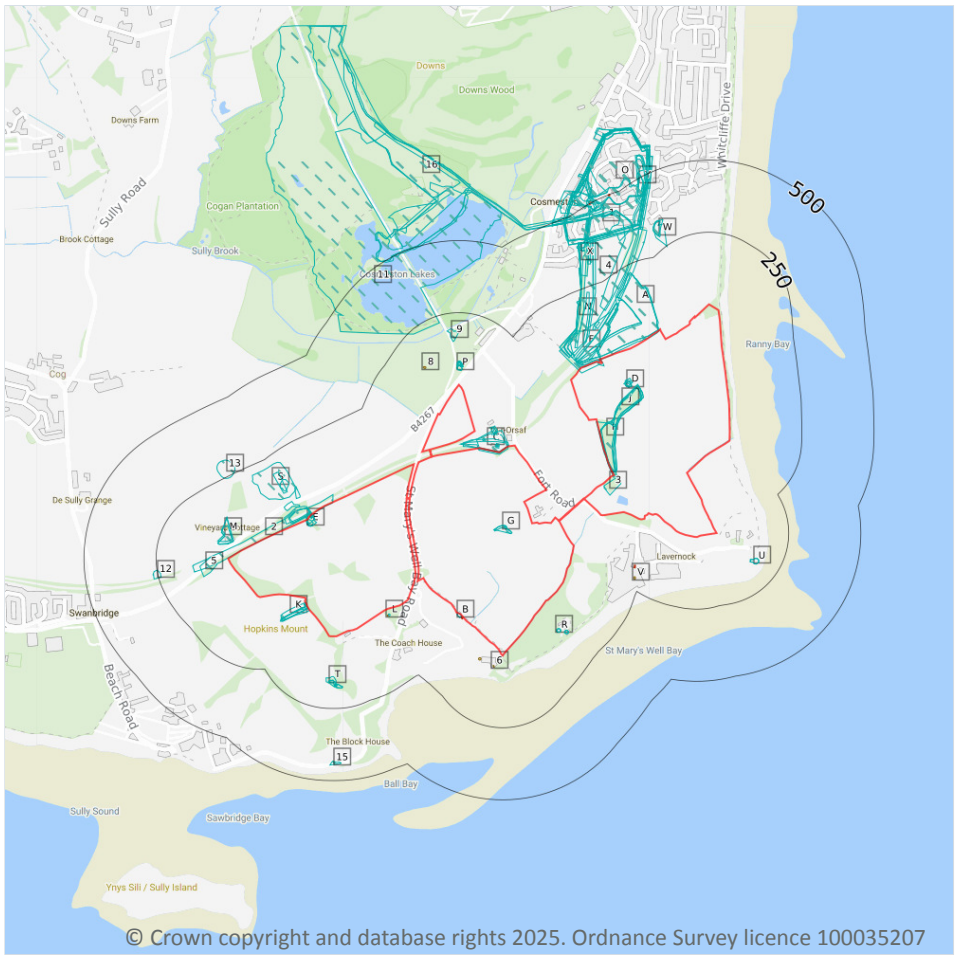


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Capture Date: 21/07/2000

Site Area: 77.58ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	123

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**	**Railway Sidings**	**1922**	**1211696**

ID	Location	Land use	Dates present	Group ID
2	On site	Cuttings	1947 - 1964	1231605
3	On site	Isolation Hospital	1915 - 1921	1267835
4	On site	Unspecified Quarry	1915	1281263
A	On site	Unspecified Old Quarry	1947	1181668
B	On site	Electric Substation	1987	1187389
C	On site	Railway Sidings	1921 - 1947	1211112
C	On site	Railway Sidings	1964	1222889
C	On site	Railway Sidings	1898 - 1915	1237107
D	On site	Old Lime Kiln	1915	1217749
D	On site	Old Lime Kiln	1921 - 1947	1218441
D	On site	Old Lime Kiln	1964	1229316
D	On site	Unspecified Quarry	1878 - 1898	1262060
E	On site	Unspecified Quarry	1947	1235271
E	On site	Unspecified Old Quarry	1915 - 1921	1265044
E	On site	Unspecified Disused Kiln	1987	1269337
E	On site	Old Lime Kiln	1915 - 1964	1279093
E	On site	Unspecified Quarry	1898	1279222
E	On site	Unspecified Disused Kiln	1972	1283779
F	On site	Unspecified Quarry	1922 - 1938	1243580
G	On site	Unspecified Old Quarry	1898 - 1915	1251843
G	On site	Old Lime Kiln	1915 - 1921	1269495
G	On site	Unspecified Old Quarry	1921	1274697
H	On site	Unspecified Heaps	1972	1252326
H	On site	Refuse Heap	1915	1256902
H	On site	Unspecified Heaps	1987	1275379
I	On site	Unspecified Heap	1964	1260412
I	On site	Unspecified Heap	1921 - 1947	1263519
J	On site	Refuse Heap	1921 - 1947	1266678

ID	Location	Land use	Dates present	Group ID
J	**On site**	**Refuse Heap**	**1964**	**1278522**
C	**On site**	**Unspecified Works**	**1987**	**1195596**
K	**On site**	**Unspecified Old Quarry**	**1898 - 1915**	**1225962**
K	**On site**	**Unspecified Disused Kiln**	**1972**	**1240345**
K	**On site**	**Unspecified Disused Kiln**	**1987**	**1250646**
K	**On site**	**Old Lime Kiln**	**1964**	**1268801**
K	1m SW	Unspecified Quarry	1964	1198140
K	1m W	Old Lime Kiln	1915	1247707
K	2m SW	Unspecified Pit	1878	1221775
K	2m SW	Unspecified Old Quarry	1921	1235530
K	2m SW	Unspecified Pit	1947	1291149
K	3m W	Old Lime Kiln	1921 - 1947	1228143
A	3m NW	Unspecified Quarry	1972	1265797
A	3m NW	Unspecified Quarry	1964	1268267
E	4m NW	Cuttings	1972	1243349
E	7m NW	Cuttings	1987	1217590
F	9m N	Unspecified Quarry	1915	1253090
F	11m N	Railway Sidings	1915	1232447
E	12m NW	Cuttings	1898 - 1921	1240761
C	13m NW	Railway Building	1898 - 1915	1283310
C	18m N	Railway Building	1921 - 1947	1227770
F	18m N	Railway Sidings	1938	1265915
L	18m SE	Unspecified Tank	1898	1203441
C	19m NW	Railway Building	1964	1211487
C	28m N	Railway Building	1921	1205977
M	41m NW	Vine Yard	1921	1235315
M	42m NW	Vine Yard	1964	1294085
5	45m SW	Cuttings	1987	1287883

ID	Location	Land use	Dates present	Group ID
N	47m NW	Unspecified Heap	1947	1263411
O	48m NW	Tramway Sidings	1938	1255265
M	49m NW	Vine Yard	1972	1276775
E	50m NW	Unspecified Quarry	1898 - 1921	1267031
P	51m N	Unspecified Pit	1922	1253986
P	51m N	Unspecified Pit	1915	1290175
C	54m N	Railway Station	1915	1186518
N	54m NW	Railway Sidings	1915	1226357
Q	54m NW	Tramway Sidings	1915	1229198
C	55m E	Railway Station	1921 - 1947	1229249
C	62m E	Railway Station	1898	1279483
P	63m N	Unspecified Pit	1947	1236005
P	66m N	Unspecified Pit	1938	1231072
P	69m N	Unspecified Pit	1915	1282603
E	72m NW	Refuse Heap	1972	1179303
R	90m SE	Unspecified Tank	1987	1291056
R	92m SE	Unspecified Tank	1972	1223069
S	97m NW	Unspecified Quarry	1947 - 1964	1251963
F	103m N	Railway Sidings	1915	1246675
R	114m SE	Unspecified Tank	1987	1252471
S	115m NW	Railway Sidings	1947 - 1964	1211646
R	116m SE	Unspecified Tank	1972	1275997
S	122m NW	Unspecified Old Quarry	1915 - 1921	1237854
T	140m S	Unspecified Quarry	1878	1198139
U	149m SE	Filter Bed	1987	1218188
U	149m SE	Filter Bed	1972	1252867
9	152m N	Unspecified Ground Workings	1964	1182782
T	152m S	Unspecified Old Quarry	1915	1220906

ID	Location	Land use	Dates present	Group ID
10	152m N	Tramway Sidings	1964	1223564
T	153m S	Unspecified Old Quarry	1921	1246610
T	165m S	Old Lime Kiln	1964	1253089
T	165m S	Unspecified Disused Kiln	1987	1259546
T	165m S	Unspecified Disused Kiln	1972	1281379
T	167m S	Old Lime Kiln	1915 - 1947	1239974
11	224m NW	Limestone Quarry	1972	1208751
12	240m W	Unspecified Pit	1947 - 1964	1244780
13	243m NW	Old Lime Kiln	1915 - 1921	1286025
W	248m NW	Unspecified Old Quarry	1915 - 1922	1238837
X	285m N	Refuse Heap	1972	1179300
W	290m NW	Unspecified Quarry	1915	1198127
W	295m NW	Unspecified Old Quarry	1938	1253274
Q	337m NW	Cement and Lime Works	1899 - 1901	1278773
Q	351m NW	Cement and Lime Works	1938	1230744
Q	353m NW	Cement and Lime Works	1922	1212933
Q	364m NW	Cement and Lime Works	1915	1222177
Q	364m NW	Cement and Lime Works	1915	1275843
Q	365m NW	Cement and Lime Works	1947	1273547
Q	365m NW	Railway Sidings	1947	1283714
Q	365m NW	Unspecified Works	1972	1273161
Q	368m N	Railway Sidings	1915	1244673
Q	370m N	Unspecified Works	1964	1277701
14	379m NW	Refuse Heap	1972	1179298
X	381m N	Unspecified Heap	1964	1241724
Y	428m NW	Unspecified Heap	1947	1215286
15	433m S	Unspecified Pit	1878	1190652
Y	433m NW	Unspecified Heap	1964	1287933

ID	Location	Land use	Dates present	Group ID
Q	437m NW	Tramway Sidings	1899 - 1901	1252011
Q	441m NW	Quarry	1901	1197929
Q	441m NW	Unspecified Quarry	1899	1198128
Y	446m NW	Unspecified Heap	1972	1283736
O	474m NW	Refuse Heap	1972	1179299
O	474m NW	Unspecified Ground Workings	1915	1182781
O	477m NW	Wind Pump	1915	1189661
16	487m NW	Unspecified Quarry	1947	1235144
17	494m NW	Unspecified Quarry	1964	1261105
O	499m NW	Unspecified Heap	1947 - 1964	1239840

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**5**

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

Features are displayed on the Past land use map on **page 14 >**

ID	Location	Land use	Dates present	Group ID
L	19m SE	Unspecified Tank	1900	182512
6	46m SW	Unspecified Tank	1993	182518
7	65m SW	Unspecified Tank	1993	182517
8	126m NW	Unspecified Tank	1988 - 1993	187031
V	200m S	Unspecified Tank	1969 - 1993	195112

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	5

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

Features are displayed on the Past land use map on **page 14 >**

ID	Location	Land use	Dates present	Group ID
B	4m SW	Electricity Substation	1993	107426
V	160m S	Electricity Substation	1969	107420
V	165m S	Electricity Substation	1993	107427
Q	496m N	Electricity Substation	1987 - 1993	114286
O	497m NW	Electricity Substation	1968	107419

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	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 un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

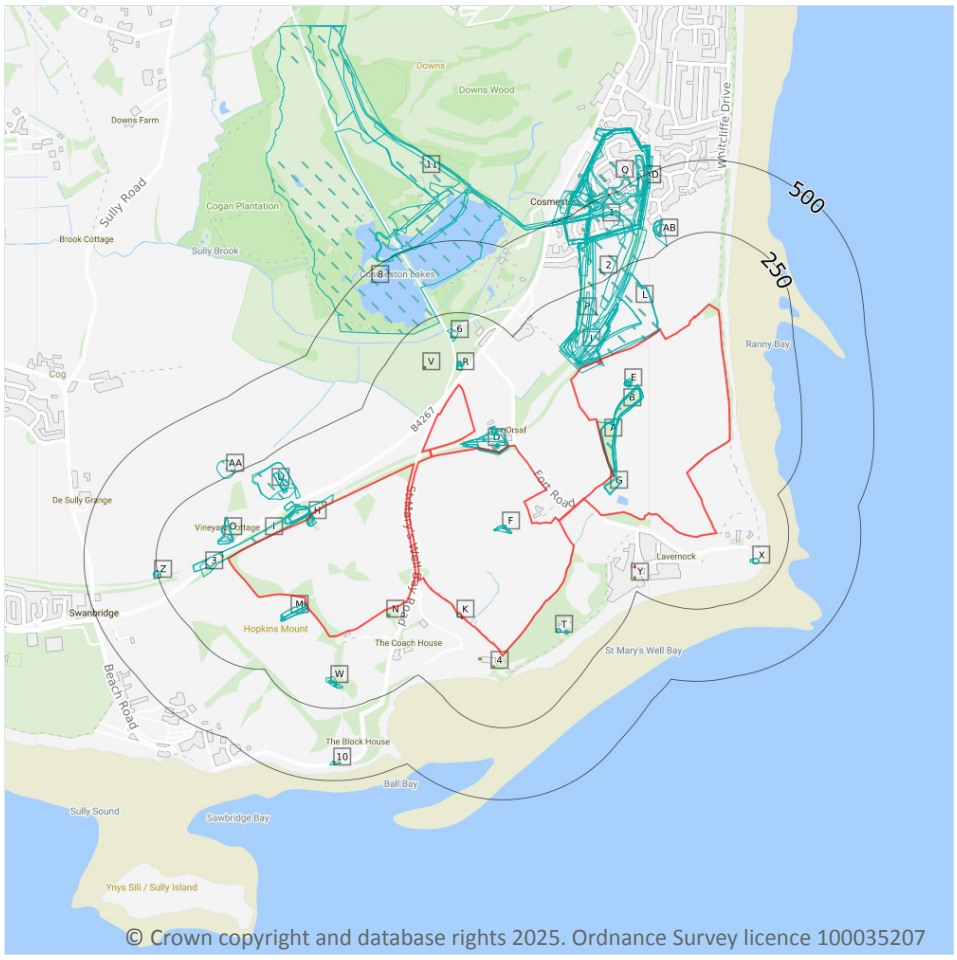
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	159

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 22 >**

ID	Location	Land Use	Date	Group ID
1	On site	Railway Sidings	1922	1211696
2	On site	Unspecified Quarry	1915	1281263
A	On site	Unspecified Heap	1947	1263519

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Heap	1964	1260412
A	On site	Unspecified Heap	1921	1263519
B	On site	Refuse Heap	1947	1266678
B	On site	Refuse Heap	1964	1278522
B	On site	Refuse Heap	1921	1266678
C	On site	Refuse Heap	1915	1256902
C	On site	Unspecified Heaps	1972	1252326
C	On site	Unspecified Heaps	1987	1275379
D	On site	Railway Sidings	1947	1211112
D	On site	Railway Sidings	1915	1237107
D	On site	Railway Sidings	1898	1237107
D	On site	Railway Sidings	1964	1222889
D	On site	Railway Sidings	1921	1211112
E	On site	Old Lime Kiln	1947	1218441
E	On site	Old Lime Kiln	1915	1217749
E	On site	Unspecified Quarry	1878	1262060
E	On site	Old Lime Kiln	1964	1229316
E	On site	Old Lime Kiln	1921	1218441
E	On site	Unspecified Quarry	1898	1262060
F	On site	Old Lime Kiln	1915	1269495
F	On site	Unspecified Old Quarry	1921	1274697
F	On site	Old Lime Kiln	1921	1269495
F	On site	Unspecified Old Quarry	1915	1251843
F	On site	Unspecified Old Quarry	1898	1251843
G	On site	Isolation Hospital	1915	1267835
G	On site	Isolation Hospital	1921	1267835
H	On site	Old Lime Kiln	1947	1279093
H	On site	Old Lime Kiln	1915	1279093

ID	Location	Land Use	Date	Group ID
H	**On site**	**Unspecified Old Quarry**	**1921**	**1265044**
H	**On site**	**Unspecified Disused Kiln**	**1972**	**1283779**
H	**On site**	**Unspecified Disused Kiln**	**1987**	**1269337**
H	**On site**	**Old Lime Kiln**	**1964**	**1279093**
H	**On site**	**Old Lime Kiln**	**1921**	**1279093**
H	**On site**	**Unspecified Quarry**	**1947**	**1235271**
H	**On site**	**Unspecified Old Quarry**	**1915**	**1265044**
H	**On site**	**Unspecified Quarry**	**1898**	**1279222**
I	**On site**	**Cuttings**	**1964**	**1231605**
I	**On site**	**Cuttings**	**1947**	**1231605**
J	**On site**	**Unspecified Quarry**	**1922**	**1243580**
K	**On site**	**Electric Substation**	**1987**	**1187389**
L	**On site**	**Unspecified Old Quarry**	**1947**	**1181668**
D	**On site**	**Unspecified Works**	**1987**	**1195596**
M	**On site**	**Unspecified Old Quarry**	**1915**	**1225962**
M	**On site**	**Unspecified Old Quarry**	**1898**	**1225962**
M	**On site**	**Unspecified Disused Kiln**	**1972**	**1240345**
M	**On site**	**Unspecified Disused Kiln**	**1987**	**1250646**
M	**On site**	**Old Lime Kiln**	**1964**	**1268801**
M	1m SW	Unspecified Quarry	1964	1198140
M	1m W	Old Lime Kiln	1915	1247707
M	2m SW	Unspecified Pit	1878	1221775
M	2m SW	Unspecified Pit	1947	1291149
M	2m SW	Unspecified Old Quarry	1921	1235530
M	3m W	Old Lime Kiln	1947	1228143
M	3m W	Old Lime Kiln	1921	1228143
L	3m NW	Unspecified Quarry	1972	1265797
L	3m NW	Unspecified Quarry	1964	1268267

ID	Location	Land Use	Date	Group ID
H	4m NW	Cuttings	1972	1243349
J	6m NW	Unspecified Quarry	1938	1243580
H	7m NW	Cuttings	1987	1217590
J	9m N	Unspecified Quarry	1915	1253090
J	11m N	Railway Sidings	1915	1232447
H	12m NW	Cuttings	1921	1240761
H	12m NW	Cuttings	1915	1240761
H	12m NW	Cuttings	1898	1240761
D	13m NW	Railway Building	1915	1283310
D	13m NW	Railway Building	1898	1283310
D	18m N	Railway Building	1947	1227770
D	18m N	Railway Building	1921	1227770
J	18m N	Railway Sidings	1938	1265915
N	18m SE	Unspecified Tank	1898	1203441
J	18m N	Railway Sidings	1915	1232447
D	19m NW	Railway Building	1964	1211487
D	28m N	Railway Building	1921	1205977
O	41m NW	Vine Yard	1921	1235315
O	42m NW	Vine Yard	1964	1294085
3	45m SW	Cuttings	1987	1287883
P	47m NW	Unspecified Heap	1947	1263411
Q	48m NW	Tramway Sidings	1938	1255265
O	49m NW	Vine Yard	1972	1276775
H	50m NW	Unspecified Quarry	1921	1267031
H	50m NW	Unspecified Quarry	1915	1267031
H	50m NW	Unspecified Quarry	1898	1267031
R	51m N	Unspecified Pit	1922	1253986
D	54m N	Railway Station	1915	1186518

ID	Location	Land Use	Date	Group ID
P	54m NW	Railway Sidings	1915	1226357
S	54m NW	Tramway Sidings	1915	1229198
D	55m E	Railway Station	1947	1229249
D	55m E	Railway Station	1921	1229249
D	62m E	Railway Station	1898	1279483
R	63m N	Unspecified Pit	1947	1236005
R	65m N	Unspecified Pit	1915	1290175
R	66m N	Unspecified Pit	1938	1231072
R	66m N	Unspecified Pit	1938	1231072
R	69m N	Unspecified Pit	1915	1282603
H	72m NW	Refuse Heap	1972	1179303
T	90m SE	Unspecified Tank	1987	1291056
T	92m SE	Unspecified Tank	1972	1223069
U	97m NW	Unspecified Quarry	1947	1251963
J	103m N	Railway Sidings	1915	1246675
U	105m NW	Unspecified Quarry	1964	1251963
T	114m SE	Unspecified Tank	1987	1252471
U	115m NW	Railway Sidings	1964	1211646
T	116m SE	Unspecified Tank	1972	1275997
U	122m NW	Unspecified Old Quarry	1915	1237854
U	122m NW	Railway Sidings	1947	1211646
U	122m NW	Unspecified Old Quarry	1921	1237854
W	140m S	Unspecified Quarry	1878	1198139
X	149m SE	Filter Bed	1972	1252867
X	149m SE	Filter Bed	1987	1218188
6	152m N	Unspecified Ground Workings	1964	1182782
W	152m S	Unspecified Old Quarry	1915	1220906
7	152m N	Tramway Sidings	1964	1223564

ID	Location	Land Use	Date	Group ID
W	153m S	Unspecified Old Quarry	1921	1246610
W	165m S	Unspecified Disused Kiln	1972	1281379
W	165m S	Unspecified Disused Kiln	1987	1259546
W	165m S	Old Lime Kiln	1964	1253089
W	167m S	Old Lime Kiln	1947	1239974
W	167m S	Old Lime Kiln	1921	1239974
W	168m S	Old Lime Kiln	1915	1239974
8	224m NW	Limestone Quarry	1972	1208751
Z	240m W	Unspecified Pit	1964	1244780
Z	241m W	Unspecified Pit	1947	1244780
AA	243m NW	Old Lime Kiln	1915	1286025
AB	248m NW	Unspecified Old Quarry	1922	1238837
AA	273m NW	Old Lime Kiln	1921	1286025
AC	285m N	Refuse Heap	1972	1179300
AB	289m NW	Unspecified Old Quarry	1915	1238837
AB	290m NW	Unspecified Quarry	1915	1198127
AB	295m NW	Unspecified Old Quarry	1938	1253274
S	337m NW	Cement and Lime Works	1901	1278773
S	351m NW	Cement and Lime Works	1938	1230744
S	353m NW	Cement and Lime Works	1922	1212933
S	364m NW	Cement and Lime Works	1915	1222177
S	364m NW	Cement and Lime Works	1915	1275843
S	365m NW	Cement and Lime Works	1947	1273547
S	365m NW	Railway Sidings	1947	1283714
S	365m NW	Unspecified Works	1972	1273161
S	368m N	Railway Sidings	1915	1244673
S	369m NW	Cement and Lime Works	1899	1278773
S	370m N	Unspecified Works	1964	1277701

ID	Location	Land Use	Date	Group ID
9	379m NW	Refuse Heap	1972	1179298
AC	381m N	Unspecified Heap	1964	1241724
AD	428m NW	Unspecified Heap	1947	1215286
10	433m S	Unspecified Pit	1878	1190652
AD	433m NW	Unspecified Heap	1964	1287933
S	437m NW	Tramway Sidings	1899	1252011
S	441m NW	Quarry	1901	1197929
S	441m NW	Unspecified Quarry	1899	1198128
AD	446m NW	Unspecified Heap	1972	1283736
S	451m NW	Tramway Sidings	1901	1252011
Q	474m NW	Refuse Heap	1972	1179299
Q	474m NW	Unspecified Ground Workings	1915	1182781
Q	477m NW	Wind Pump	1915	1189661
11	487m NW	Unspecified Quarry	1947	1235144
12	494m NW	Unspecified Quarry	1964	1261105
Q	499m NW	Unspecified Heap	1947	1239840

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**9**

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 22 >**

ID	Location	Land Use	Date	Group ID
N	19m SE	Unspecified Tank	1900	182512
4	46m SW	Unspecified Tank	1993	182518
5	65m SW	Unspecified Tank	1993	182517
V	126m NW	Unspecified Tank	1993	187031

ID	Location	Land Use	Date	Group ID
V	129m NW	Unspecified Tank	1988	187031
V	129m NW	Unspecified Tank	1988	187031
V	129m NW	Unspecified Tank	1989	187031
Y	200m S	Unspecified Tank	1969	195112
Y	203m S	Unspecified Tank	1993	195112

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**6**

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 22 >**

ID	Location	Land Use	Date	Group ID
K	4m SW	Electricity Substation	1993	107426
Y	160m S	Electricity Substation	1969	107420
Y	165m S	Electricity Substation	1993	107427
S	496m N	Electricity Substation	1993	114286
S	497m N	Electricity Substation	1987	114286
Q	497m NW	Electricity Substation	1968	107419

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical landfill (BGS)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	1

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.

Features are displayed on the Waste and landfill map on **page 31 >**

ID	Location	Address	BGS Number	Risk	Waste Type
3	164m NW	Lavernock Quarry, Lavernock Rd, Lavernock, S Wales	2583	No risk to aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 31 >**

ID	Location	Details		
1	**On site**	**Site Address: Cosmeston No.1 - Old Tip, Cosmeston Licence Holder Address: -**	**Waste Licence: Yes Site Reference: - Waste Type: Inert, Industrial, Commercial, Household, Special Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 31/12/1974 Licence Surrender: 16/08/1996**	**Operator: Vale of Glamorgan Borough Council Licence Holder: - First Recorded 31/12/1977 Last Recorded: 31/12/1994**

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	1

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 31 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	32m N	The Wildlife Trust Of South And West Wales, Lavernock Point Nature Reserve, Penarth, Vale Of Glamorgan, Cf64 5ul	NRW-WME039192	Disposing of waste exemption	On a farm	Burning waste in the open

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	5

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 34 >**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Limekiln (Disused)**	**South Glamorgan, CF64**	**Lime Kilns**	**Industrial Features**
2	4m SW	Electricity Sub Station	South Glamorgan, CF64	Electrical Features	Infrastructure and Facilities
3	10m N	Works	South Glamorgan, CF64	Unspecified Works Or Factories	Industrial Features

ID	Location	Company	Address	Activity	Category
5	40m SW	Tank	South Glamorgan, CF64	Tanks (Generic)	Industrial Features
A	150m SE	Filter Bed	South Glamorgan, CF64	Waste Storage, Processing and Disposal	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	12

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 34 >**

ID	Location	Address	Details	
4	15m NW	SUTTONFARMLAVERNOCKPENARTH,SUTTONFARM,LAVERNOCK,PENARTH,VALEOFGLAMORGAN,CF645UL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AN0352501 Permit Version: 1 Receiving Water: TO GROUND	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 26/11/2003 Effective Date: 26/11/2003 Revocation Date: -
6	243m E	MARCONIHOLIDAYVILLAGESFORTRDP,MARCONIHOLIDAYVILLAGESFORTRD,FORTRDPENARTHCARDIFF,PENARTHCARDIFF,CARDIFF	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AN0245801 Permit Version: 0 Receiving Water: BRISTOL CHANNEL - COASTAL WATE	Status: Effective Issue date: 25/03/2013 Effective Date: 25/03/2013 Revocation Date: -
B	325m NW	UnknownUnknownUnknownUnknownUnk	Effluent Type: UNSPECIFIED Permit Number: AN0174701 Permit Version: 1 Receiving Water: SULLY BROOK	Status: REVOKED - UNSPECIFIED Issue date: 01/01/1901 Effective Date: 01/01/1901 Revocation Date: 19/10/1989

ID	Location	Address	Details	
B	325m NW	UnknownUnknownUnknownUnknownUnk	Effluent Type: UNSPECIFIED Permit Number: AN0174701 Permit Version: 2 Receiving Water: SULLY BROOK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 20/10/1989 Effective Date: 20/10/1989 Revocation Date: 17/05/1993
B	349m NW	COSMESTONPARKPSPENARTH,PUMPINGSTATION,COSMESTONPARK,PENARTH,VALEOFGLAM	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AN0243301 Permit Version: 0 Receiving Water: SULLY BROOK	Status: Effective Issue date: 29/03/2007 Effective Date: 31/03/2007 Revocation Date: -
B	361m NW	COSMESTONPSNEARPENARTHCARDIFF,COSMESTONPSNEARPENARTHCARD,NEARPENARTHCARDIFF,CARDIFF,CARDIFF	Effluent Type: UNSPECIFIED Permit Number: AN0243301 Permit Version: 2 Receiving Water: SULLY BROOK	Status: REVOKED - UNSPECIFIED Issue date: 12/01/1996 Effective Date: 13/01/1996 Revocation Date: 31/03/1997
B	362m NW	COSMESTONPSNEARPENARTHCARDIFF,COSMESTONPSNEARPENARTHCARD,NEARPENARTHCARDIFF,CARDIFF,CARDIFF	Effluent Type: UNSPECIFIED Permit Number: AN0243301 Permit Version: 3 Receiving Water: SULLY BROOK	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 13/06/1995 Effective Date: 01/04/1997 Revocation Date: 30/03/2006
B	362m NW	COSMESTONPSNEARPENARTHCARDIFF,COSMESTONPSNEARPENARTHCARD,NEARPENARTHCARDIFF,CARDIFF,CARDIFF	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AN0243301 Permit Version: 4 Receiving Water: SULLY BROOK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 31/03/2005 Effective Date: 31/03/2006 Revocation Date: 30/03/2007
B	362m NW	COSMESTONPSNEARPENARTHCARDIFF,COSMESTONPSNEARPENARTHCARD,NEARPENARTHCARDIFF,CARDIFF,CARDIFF	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AN0243301 Permit Version: 4 Receiving Water: SULLY BROOK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 31/03/2005 Effective Date: 31/03/2006 Revocation Date: 30/03/2007
B	362m NW	COSMESTONPSNEARPENARTHCARDIFF,COSMESTONPSNEARPENARTHCARD,NEARPENARTHCARDIFF,CARDIFF,CARDIFF	Effluent Type: UNSPECIFIED Permit Number: AN0243301 Permit Version: 1 Receiving Water: SULLY BROOK	Status: REVOKED - UNSPECIFIED Issue date: 14/06/1994 Effective Date: 01/07/1995 Revocation Date: 12/01/1996
C	459m N	UnknownUnknownUnknownUnknownUnk	Effluent Type: UNSPECIFIED Permit Number: AN0143801 Permit Version: 1 Receiving Water: REEN CONNECTING WITH THE SULLY	Status: REVOKED - UNSPECIFIED Issue date: 01/01/1901 Effective Date: 01/01/1901 Revocation Date: 06/07/1989

ID	Location	Address	Details	
C	459m N	UnknownUnknownUnknownUnknownUnk	Effluent Type: UNSPECIFIED Permit Number: AN0143801 Permit Version: 2 Receiving Water: REEN CONNECTING WITH THE SULLY	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 07/07/1989 Effective Date: 07/07/1989 Revocation Date: 16/01/1995

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	3

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 34 >**

ID	Location	Details	
A	189m SE	Incident Date: 24/09/2012 Incident Identification: 1040320 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
A	189m SE	Incident Date: 24/09/2012 Incident Identification: 1040320 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
A	189m SE	Incident Date: 24/09/2012 Incident Identification: 1040320 Pollutant: Sewage Materials Pollutant Description: Process Effluent	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)

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.

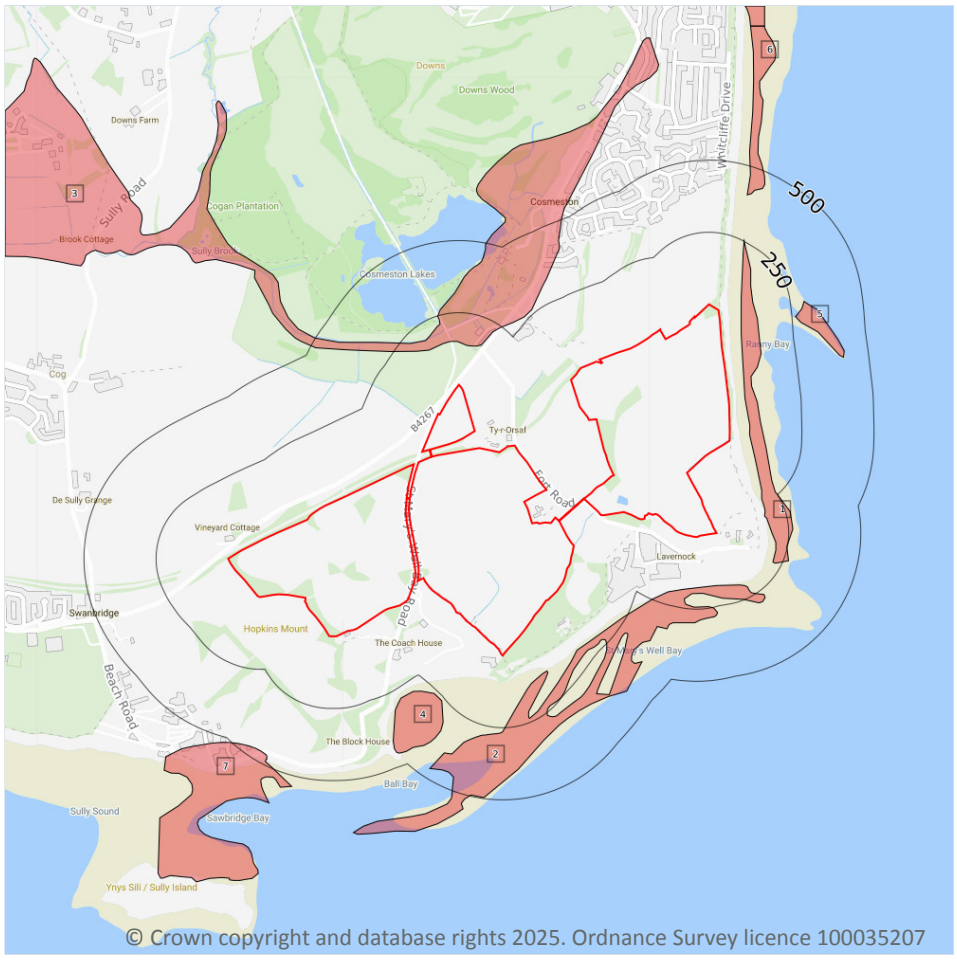
4.21 Pollution inventory radioactive waste

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



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	7

Aquifer status of groundwater held within superficial geology.

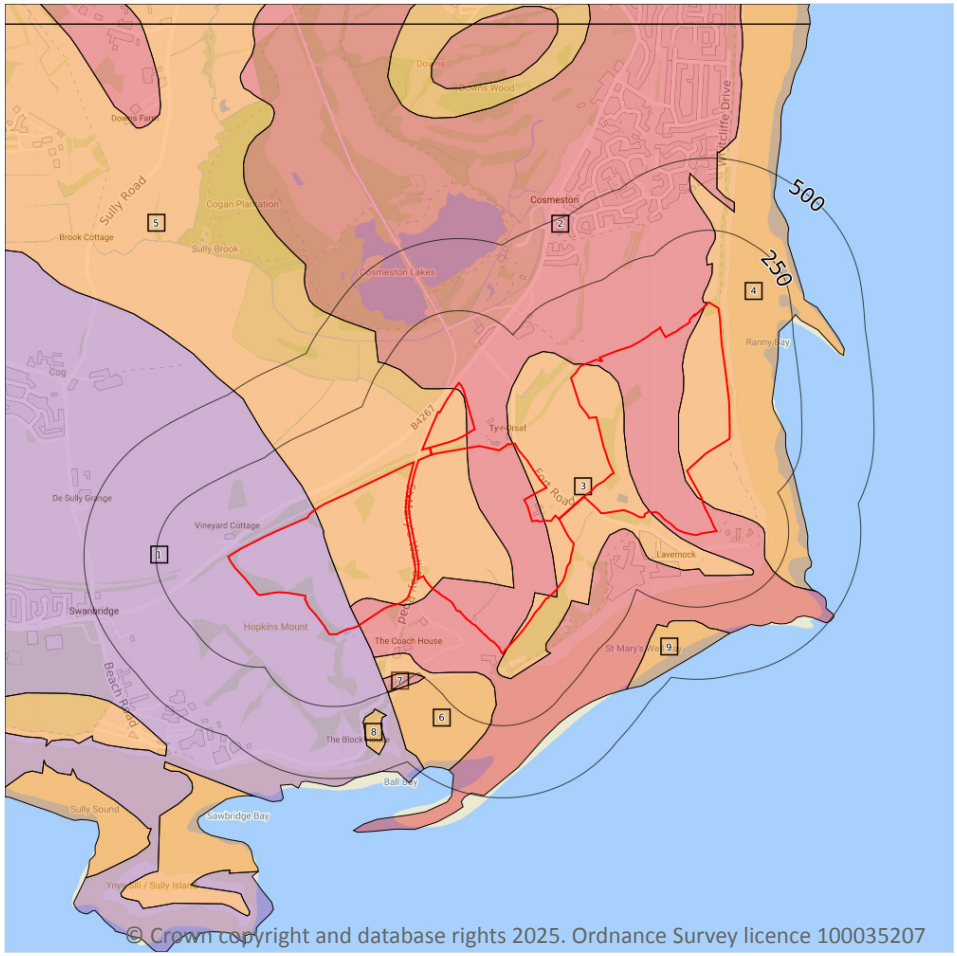
Features are displayed on the Hydrogeology map on **page 42 >**

ID	Location	Designation	Description
1	57m 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
2	138m 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
3	139m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	262m SW	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	262m 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
6	402m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
7	464m SW	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



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	9

Aquifer status of groundwater held within bedrock geology.

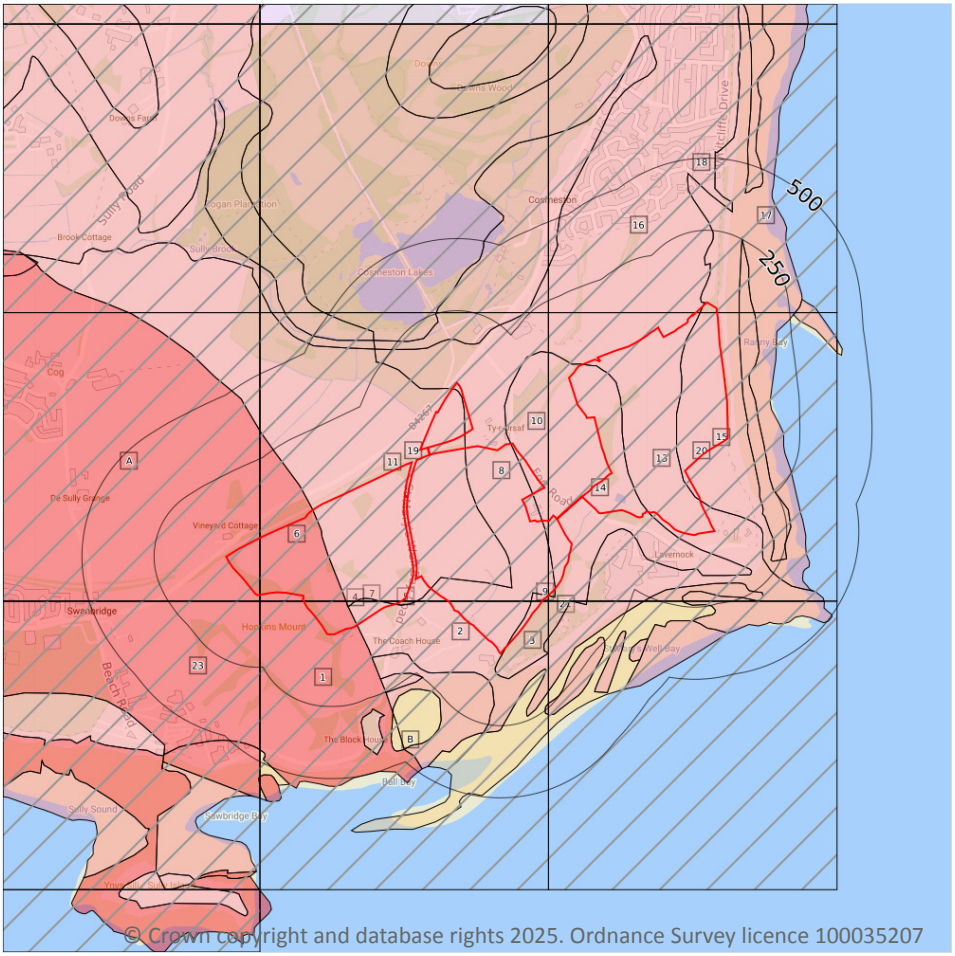
Features are displayed on the Bedrock aquifer map on **page 44 >**

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

ID	Location	Designation	Description
3	**On site**	**Secondary B**	**Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers**
4	**On site**	**Secondary B**	**Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers**
5	**On site**	**Secondary B**	**Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers**
6	99m SW	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers
7	202m 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
8	291m S	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers
9	297m S	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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

Groundwater vulnerability



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5.3 Groundwater vulnerability

Records within 50m	20

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 46 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
5	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
6	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
7	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
8	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
9	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
10	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
11	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
12	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
13	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
14	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
15	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
16	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
17	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
A	**On site**	**Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures**
21	14m SE	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: No Data% Dilution value: No Datamm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
23	21m S	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	5

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
18	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**57.99999999999999%**
19	**Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**3.0%**
20	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**28.999999999999996%**
A	**Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**0.0%**
B	**Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**6.0%**

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

5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

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

5.6 Groundwater abstractions

Records within 2000m	5

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 51 >**

ID	Location	Details	
A	718m N	Status: Active Licence No: 21/58/11/0009 Details: Spray Irrigation - Direct - High Direct Source: - Point: - Data Type: Point Name: - Easting: 317923 Northing: 169518	Annual Volume (m^3): 9100 Max Daily Volume (m^3): 113.65 Original Application No: - Original Start Date: 18/05/2004 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	718m N	Status: Historical Licence No: 21/58/11/0009 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: BOREHOLE AT GLAMORGANSHIRE GOLF CLUB Data Type: Point Name: Glamorganshire Golf Club Easting: 317923 Northing: 169518	Annual Volume (m^3): 9100 Max Daily Volume (m^3): 113.65 Original Application No: - Original Start Date: 24/05/1985 Expiry Date: - Issue No: 100 Version Start Date: 18/05/2004 Version End Date: -
A	718m N	Status: Historical Licence No: 21/58/11/0009 Details: Spray Irrigation - Direct - High Direct Source: - Point: - Data Type: Point Name: - Easting: 317923 Northing: 169518	Annual Volume (m^3): 9100 Max Daily Volume (m^3): 216 Original Application No: - Original Start Date: 18/05/2004 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
1	1421m NW	Status: Active Licence No: WA/058/0011/0005 Details: Dewatering - Very Low Direct Source: Underground strata Point: - Data Type: Poly4 Name: - Easting: 315790 Northing: 169643	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/2019 Expiry Date: 31/03/2030 Issue No: - Version Start Date: - Version End Date: -
-	1724m NW	Status: Historical Licence No: 21/58/11/0007 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL AT ALHAMRA Data Type: Point Name: Ahmad Easting: 316640 Northing: 170130	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/07/1994 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	29

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 54 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	**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
2	**On site**	**Marsh. An area that is predominantly waterlogged by freshwater.**	**On ground surface**	**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)**	**-**
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)**	**-**
D	**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)**	**-**
F	**On site**	**Inland river not influenced by normal tidal action.**	**Underground**	**Watercourse contains water year round (in normal circumstances)**	**-**
H	1m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	1m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
6	13m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	47m NW	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	69m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	100m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	165m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	190m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
11	190m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sully Brook
K	197m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	197m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sully Brook
K	198m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Sully Brook
K	199m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sully Brook
K	199m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cosmeston Lakes
M	209m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	214m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	226m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sully Brook

ID	Location	Type of water feature	Ground level	Permanence	Name
L	226m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	239m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**10**

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 54 >**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	**2**

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 54 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
4	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**333**	**Thaw and Cadoxton**	**Tawe to Cadoxton**
5	**On site**	**River WB catchment**	**Cadoxton - headwaters to tidal limit**	**GB110058026420**	**Thaw and Cadoxton**	**Tawe to Cadoxton**

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.

Features are displayed on the Hydrology map on **page 54 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
8	61m E	Transitional	SEVERN LOWER	GB530905415401	Moderate	Fail	Moderate	2019
9	131m SE	Coastal	Bristol Channel Inner North	GB641008660000	Moderate	Good	Moderate	2016
-	2289m NW	River	Cadoxton - headwaters to tidal limit	GB110058026420	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site	1

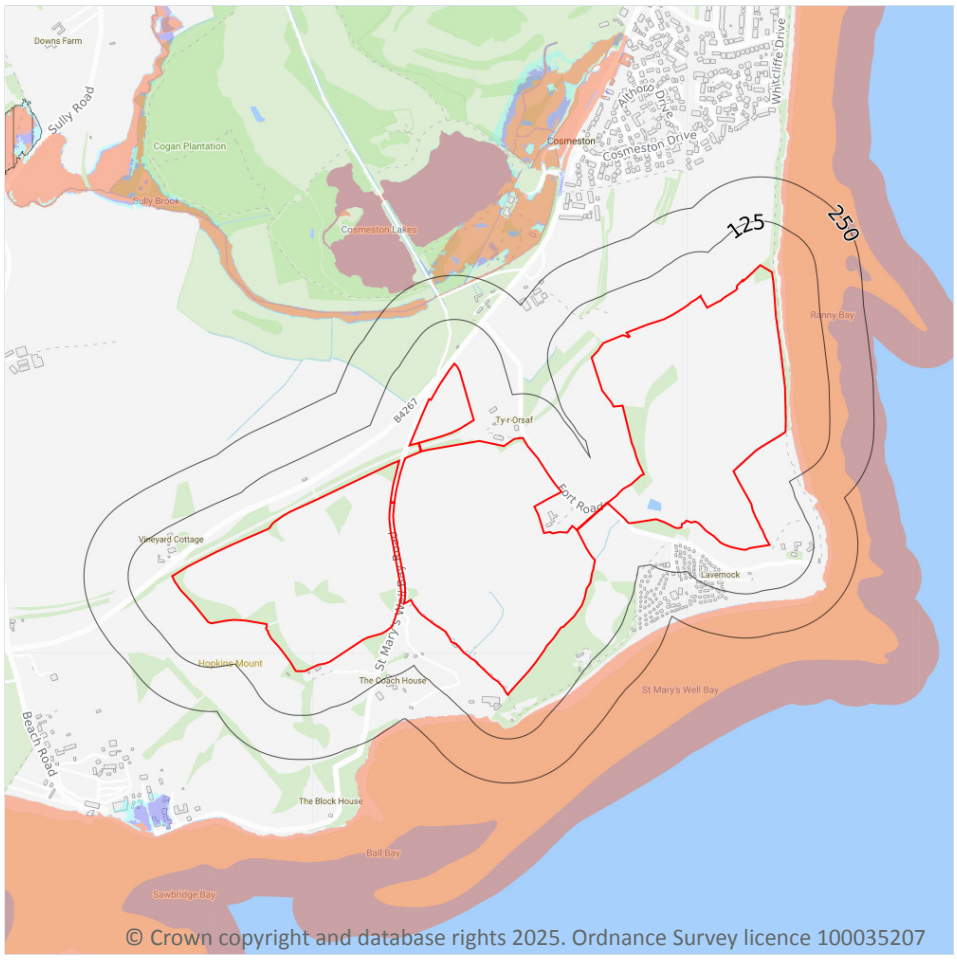
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on **page 54 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
G	**On site**	**Thaw & Cadoxtan Jurassic Lias**	**GB41002G201400**	**Good**	**Good**	**Good**	**2017**

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m	46

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 59 >**

Distance	Flood risk category
On site	**N/A**
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	**0**

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

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

7.3 Flood Defences

Records within 250m	**0**

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	**0**

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

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

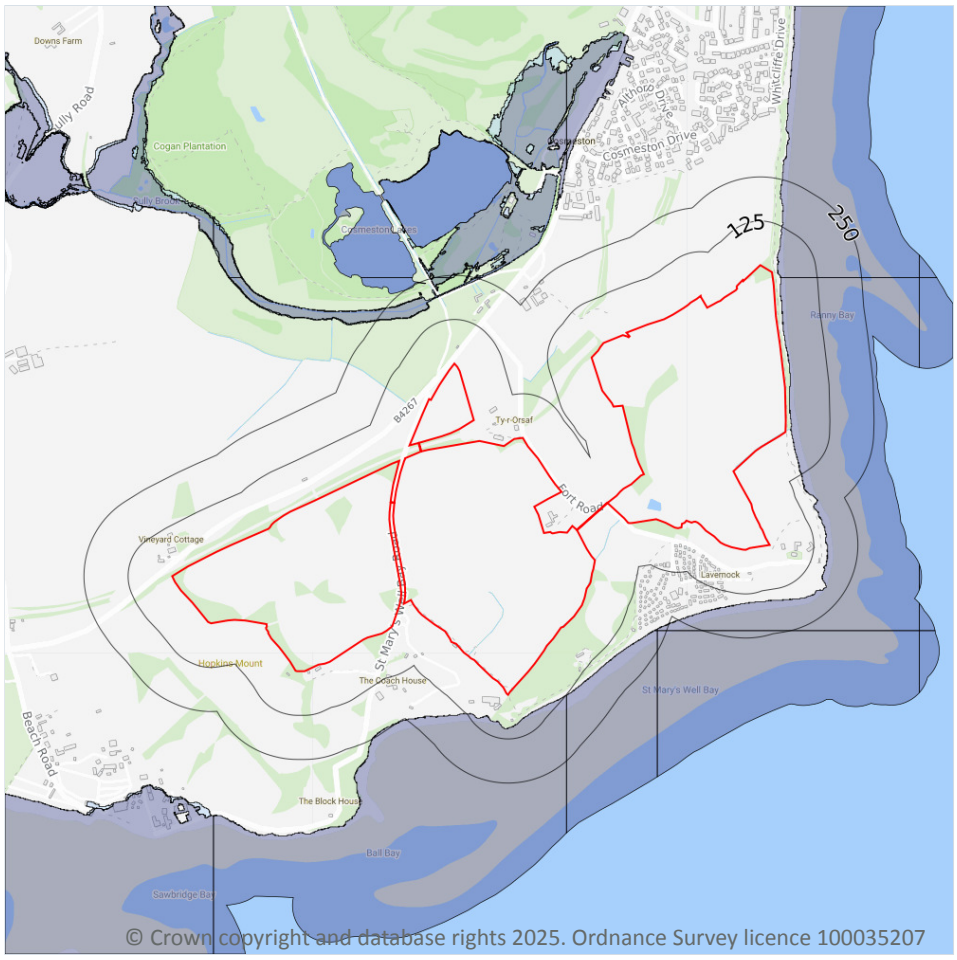
7.5 Flood Storage Areas

Records within 250m	**0**

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

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

River and coastal flooding - Flood Zones



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

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 59 >**

Location	Type
11m E	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

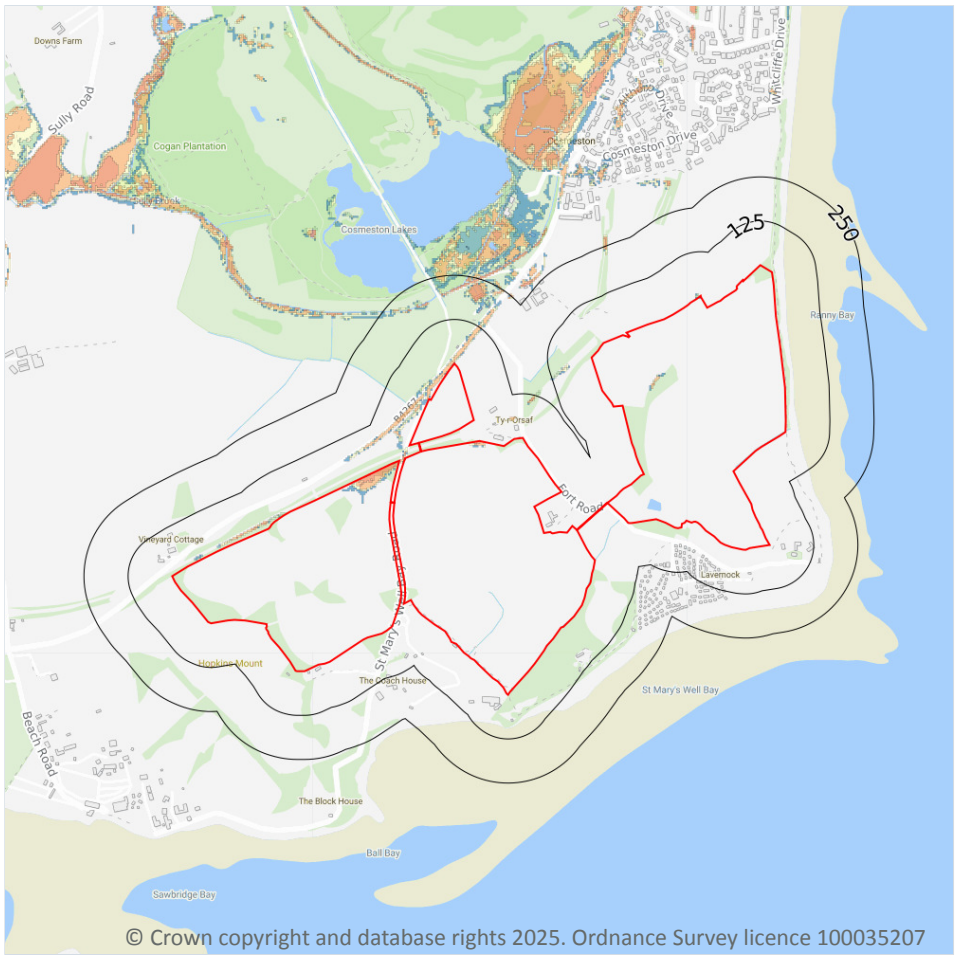
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 59 >**

Location	Type
11m E	Zone 3 - (Fluvial /Tidal Models)

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

8 Surface water flooding



Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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

Features are displayed on the Surface water flooding map on **page 63 >**

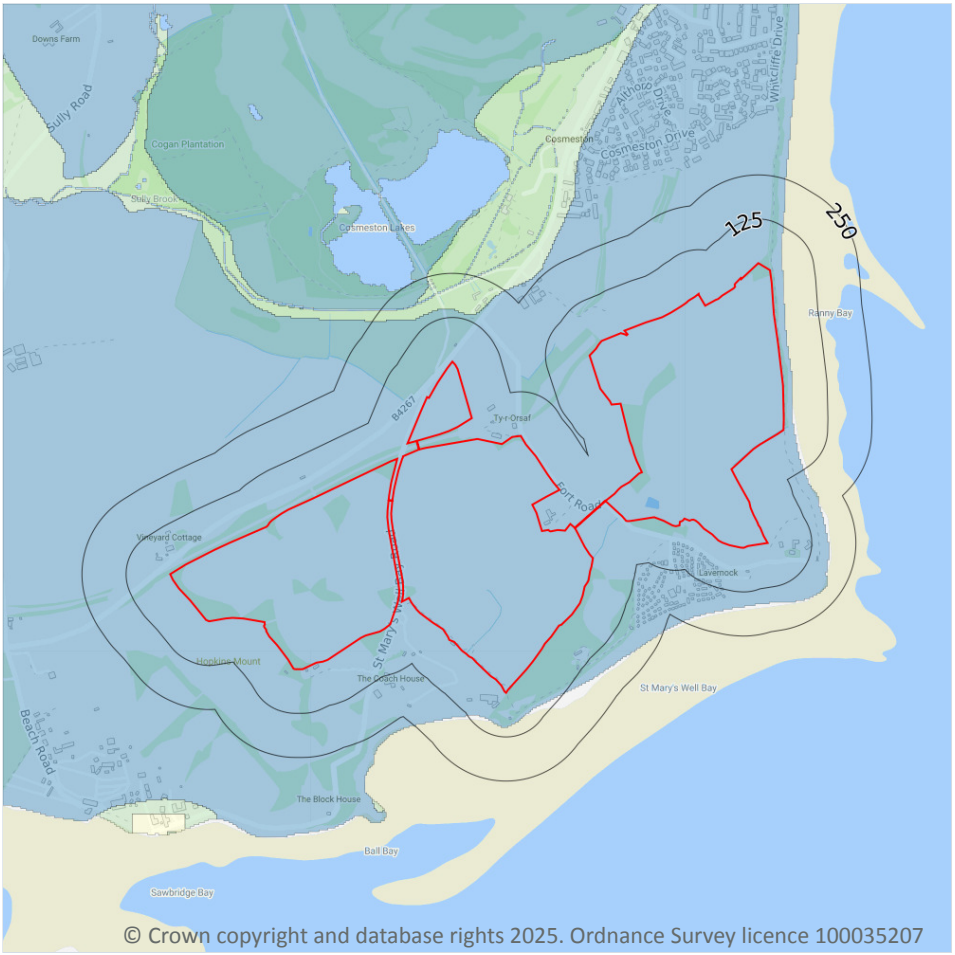
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

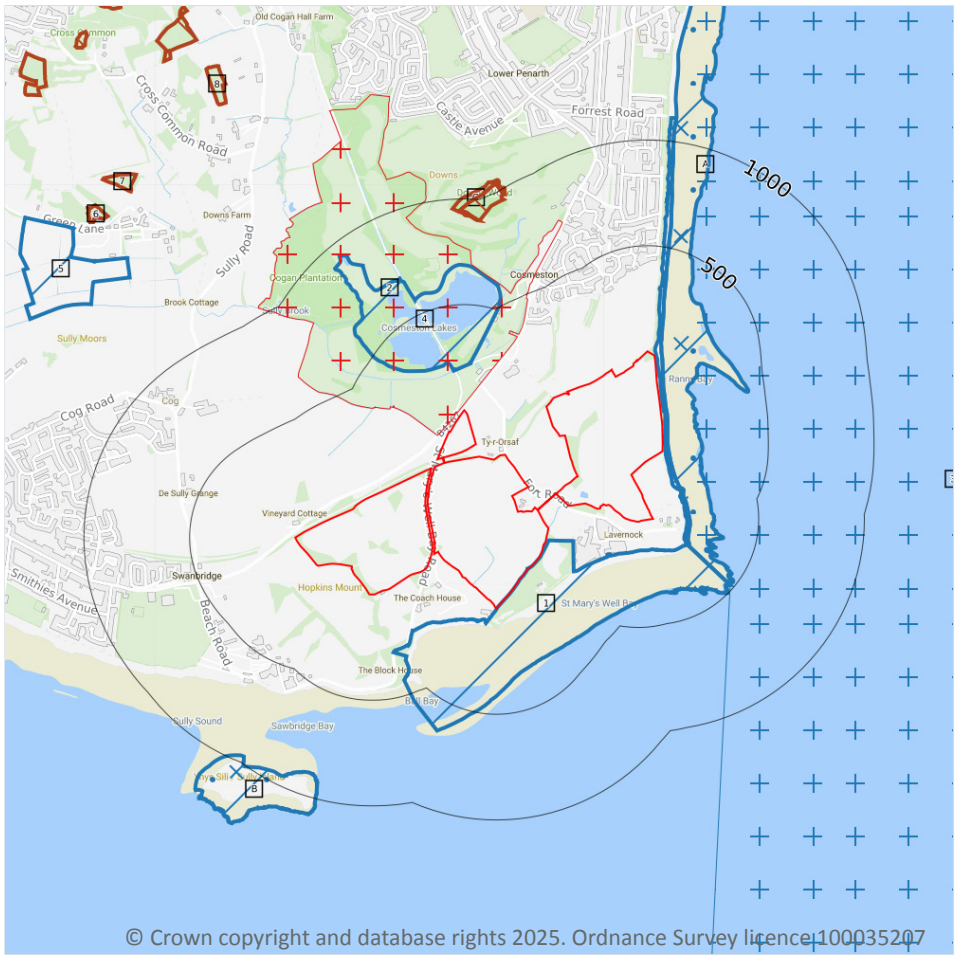
Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

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

Features are displayed on the Groundwater flooding map on **page 65 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

- Sites of Special Scientific Interest (SSSI)
- Conserved wetland sites (Ramsar sites)
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Local Nature Reserves (LNR)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	5

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 66 >**

ID	Location	Name	Data source
1	**On site**	**Penarth Coast**	**Natural Resources Wales**

ID	Location	Name	Data source
A	23m E	Severn Estuary	Natural Resources Wales
4	195m N	Llynnoedd Cosmeston / Cosmeston Lakes	Natural Resources Wales
B	890m S	Sully Island	Natural Resources Wales
5	1459m NW	Cog Moors	Natural Resources Wales

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	**2**

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.

Features are displayed on the Environmental designations map on **page 66 >**

ID	Location	Site	Details
A	23m E	Name: Severn Estuary (Wales) Site status: - Data source: Natural Resources Wales	Overview: The estuary's classic funnel shape, unique in Britain, is a factor causing the Severn to have the second-largest tidal range in the world (after the Bay of Fundy, Canada). This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide swept sand and rock. The species-poor invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders. A further consequence of the large tidal range is the extensive intertidal zone, one of the largest in the UK, comprising mudflats, sand banks, shingle, and rocky platforms. Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass Zostera occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent. Ramsar criteria: Ramsar criterion 1 Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities. Habitats Directive Annex I features present on the pSAC include: H1110 Sandbanks which are slightly covered by sea water all the time H1130 Estuaries H1140 Mudflats and sandflats not covered by seawater at low tide H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Ramsar criterion 3 Due to unusual estuarine communities, reduced diversity and high productivity. Ramsar criterion 4 This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon Salmo salar, sea trout S. trutta, sea lamprey Petromyzon marinus, river lamprey Lampetra fluviatilis, allis shad Alosa alosa, twaite shad A. fallax, and eel Anguilla anguilla. It is also of particular importance for migratory birds during spring and autumn. Ramsar criterion 8 The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon Salmo salar, sea trout S. trutta, sea lamprey Petromyzon marinus, river lamprey Lampetra fluviatilis, allis shad Alosa alosa, twaite shad A. fallax, and eel Anguilla anguilla use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad Alosa alosa and twaite shad A. fallax which feed on mysid shrimps in the salt wedge.

ID	Location	Site	Details
B	890m S	Name: Severn Estuary (Wales) Site status: - Data source: Natural Resources Wales	Overview: The estuary's classic funnel shape, unique in Britain, is a factor causing the Severn to have the second-largest tidal range in the world (after the Bay of Fundy, Canada). This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide swept sand and rock. The species-poor invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders. A further consequence of the large tidal range is the extensive intertidal zone, one of the largest in the UK, comprising mudflats, sand banks, shingle, and rocky platforms. Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass Zostera occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent. Ramsar criteria: Ramsar criterion 1 Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities. Habitats Directive Annex I features present on the pSAC include: H1110 Sandbanks which are slightly covered by sea water all the time H1130 Estuaries H1140 Mudflats and sandflats not covered by seawater at low tide H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Ramsar criterion 3 Due to unusual estuarine communities, reduced diversity and high productivity. Ramsar criterion 4 This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon Salmo salar, sea trout S. trutta, sea lamprey Petromyzon marinus, river lamprey Lampetra fluviatilis, allis shad Alosa alosa, twaite shad A. fallax, and eel Anguilla anguilla. It is also of particular importance for migratory birds during spring and autumn. Ramsar criterion 8 The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon Salmo salar, sea trout S. trutta, sea lamprey Petromyzon marinus, river lamprey Lampetra fluviatilis, allis shad Alosa alosa, twaite shad A. fallax, and eel Anguilla anguilla use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad Alosa alosa and twaite shad A. fallax which feed on mysid shrimps in the salt wedge.

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 66 >**

ID	Location	Name	Features of interest	Habitat description	Data source
3	23m E	Severn Estuary (Wales)	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Reefs; Glasswort and other annuals colonising mud and sand; Cord-grass swards; Atlantic salt meadows; Shifting dunes; Sea lamprey; River lamprey; Allis shad; Twaite shad	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	Natural Resources Wales

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

10.4 Special Protection Areas (SPA)

Records within 2000m	**2**

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.

Features are displayed on the Environmental designations map on **page 66 >**

ID	Location	Name	Species of interest	Habitat description	Data source
A	23m E	Severn Estuary (Wales)	Tundra swan; Common shelduck; Gadwall; Common redshank; Greater white-fronted goose; Dunlin	Coastal sand dunes, Sand beaches, Machair; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Improved grassland; Salt marshes, Salt pastures, Salt steppes	Natural Resources Wales
B	890m S	Severn Estuary (Wales)	Tundra swan; Common shelduck; Gadwall; Common redshank; Greater white-fronted goose; Dunlin	Coastal sand dunes, Sand beaches, Machair; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Improved grassland; Salt marshes, Salt pastures, Salt steppes	Natural Resources Wales

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	1

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.

Features are displayed on the Environmental designations map on **page 66 >**

ID	Location	Name	Data source
2	18m NW	Cosmeston Lakes Country Park	Natural Resources Wales

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

10.7 Designated Ancient Woodland

Records within 2000m	5

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 66 >**

ID	Location	Name	Woodland Type
C	901m N	Unknown	Ancient Semi Natural Woodland
C	901m N	Unknown	Ancient Semi Natural Woodland
6	1759m NW	Unknown	Ancient Semi Natural Woodland
7	1807m NW	Unknown	Ancient Semi Natural Woodland
8	1841m NW	Unknown	Restored Ancient Woodland Site

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

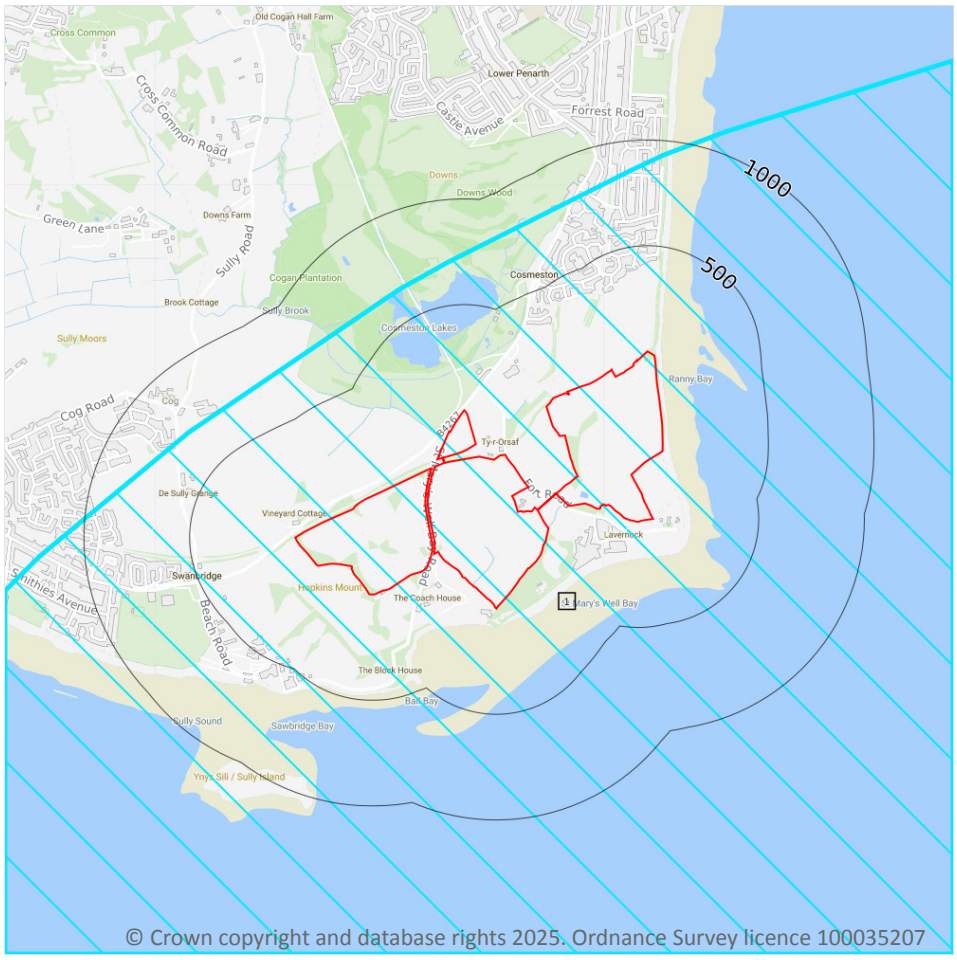
10.16 Nitrate Vulnerable Zones

Records within 2000m	0

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

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

SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site	1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 74 >**

ID	Location	Type of developments requiring consultation
1	**On site**	**https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0300000630000&notes=&location=315939,164145%20(IRZ%20polygon%20centre)**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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	2

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 76 >**

ID	Location	Name	Grade	Reference Number	Listed date
2	73m E	Church Of St Lawrence, In Small Walled Churchyard With Stone Stile At End Of Fort Road, Above Cliffs Of Lavernock Point.	II	24060	03/10/2000
5	240m NW	Original House At Lower Cosmeston Farm, Part Of The Complex Of Farm Buildings At Lower Cosmeston Farm, To The E Of The B4267 Approximately 300m S Of The Entrance To Cosmeston Lakes Country Park.	II	87852	15/10/2021

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	3

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 76 >**

ID	Location	Ancient monument name	Reference number
1	67m S	Anti-aircraft and Coastal Battery West of Lavernock Point	925
3	76m SE	Anti-aircraft and Coastal Battery West of Lavernock Point	925
4	156m SE	Anti-aircraft and Coastal Battery West of Lavernock Point	925

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

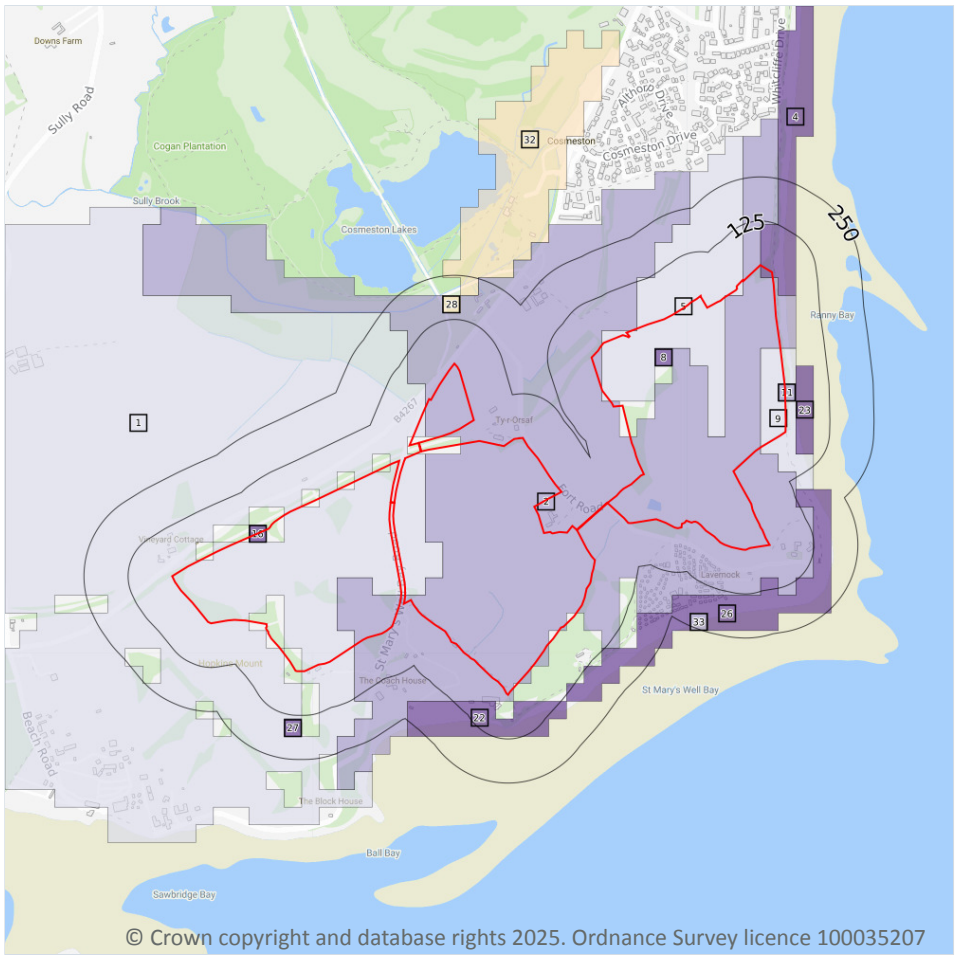
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	15

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 79 >**

ID	Location	Classification	Description
1	**On site**	**Grade 3b**	**Moderate quality agricultural land**
2	**On site**	**Grade 4**	**Poor quality agricultural land**
4	**On site**	**Grade 5**	**Very poor quality agricultural land**

ID	Location	Classification	Description
5	**On site**	**Grade 3b**	**Moderate quality agricultural land**
8	**On site**	**Grade 5**	**Very poor quality agricultural land**
9	**On site**	**Grade 3b**	**Moderate quality agricultural land**
11	**On site**	**Grade 4**	**Poor quality agricultural land**
16	**On site**	**Grade 5**	**Very poor quality agricultural land**
22	24m SE	Grade 5	Very poor quality agricultural land
23	29m E	Grade 5	Very poor quality agricultural land
26	88m S	Grade 5	Very poor quality agricultural land
27	135m S	Grade 5	Very poor quality agricultural land
28	143m N	Grade 3a	Good to moderate quality agricultural land
32	194m N	Grade 3a	Good to moderate quality agricultural land
33	198m S	Grade 4	Poor quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



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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 83 >**

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

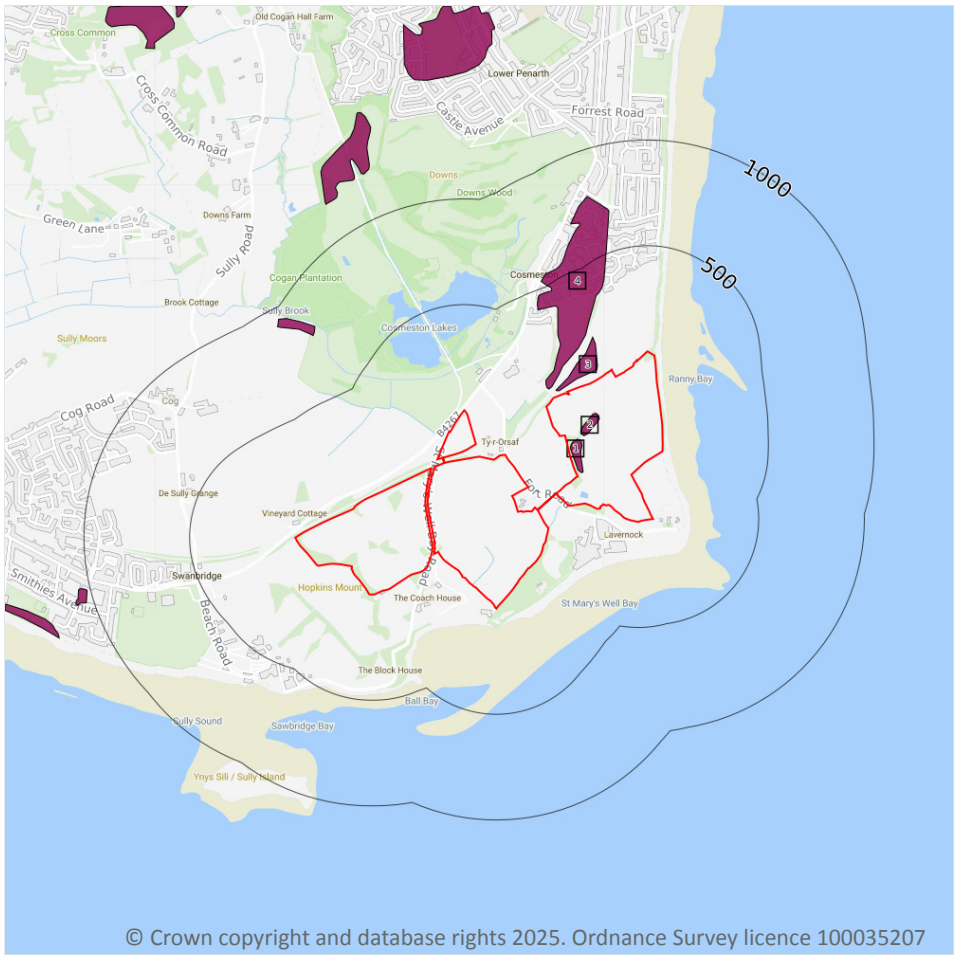
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 87 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW263_cardiff_v4**

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m **4**

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 88 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**MGR-ARTDP**	**MADE GROUND (UNDIVIDED)**	**ARTIFICIAL DEPOSIT**
2	**On site**	**MGR-ARTDP**	**MADE GROUND (UNDIVIDED)**	**ARTIFICIAL DEPOSIT**
3	21m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	48m NW	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	**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**
21m N	Mixed	Very High	Low
48m NW	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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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	9

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 90 >**

ID	Location	LEX Code	Description	Rock description
1	57m E	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL
2	138m SE	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL
3	139m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	262m SW	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
5	262m E	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL
6	402m N	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL
7	464m SW	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL
8	481m SW	STOB-V	STORM BEACH DEPOSITS	GRAVEL
9	488m SW	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

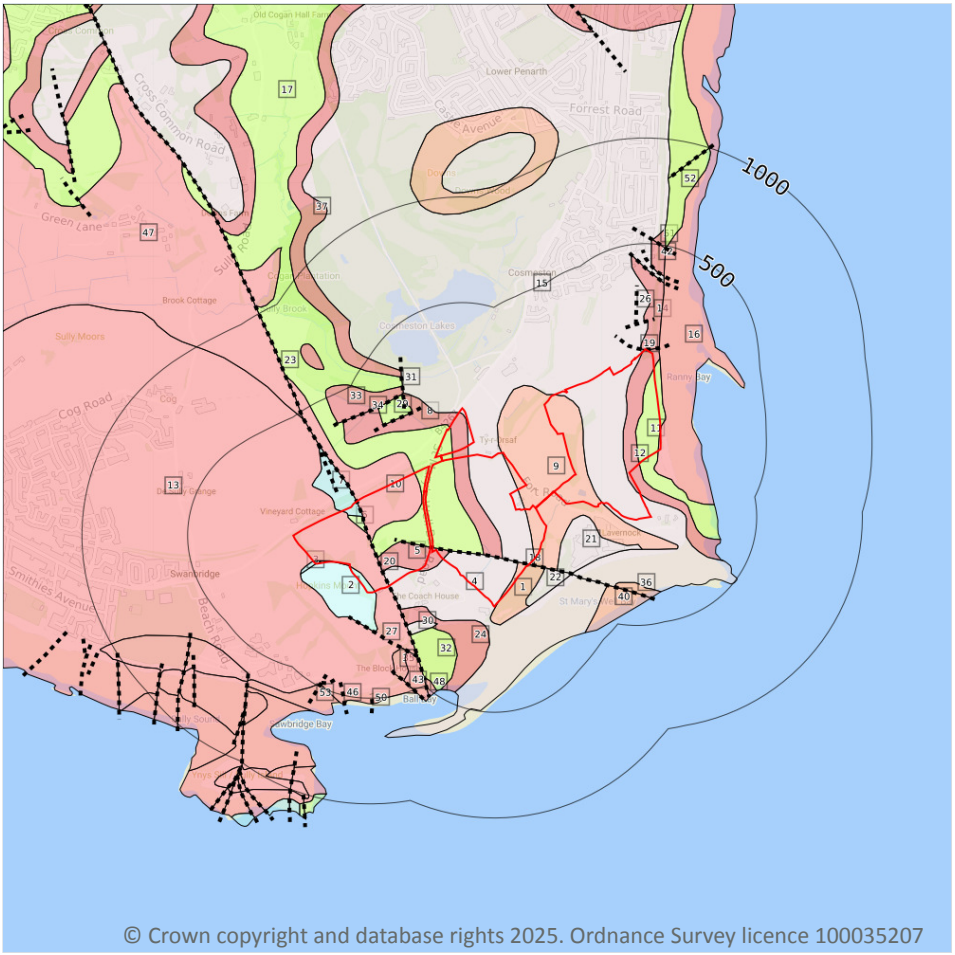
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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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	35

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 92 >**

ID	Location	LEX Code	Description	Rock age
1	On site	LVN-MDST	LAVERNOCK SHALES MEMBER - MUDSTONE	HETTANGIAN
2	On site	GUO-LMOOL	GULLY OOLITE FORMATION - LIMESTONE, OOIDAL	VISEAN
3	On site	FPL-LMST	FRIARS POINT LIMESTONE FORMATION - LIMESTONE	TOURNAISIAN

ID	Location	LEX Code	Description	Rock age
4	**On site**	**STM-LSMD**	**ST MARY'S WELL BAY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED**	**RHAETIAN**
5	**On site**	**PNG-MDLM**	**PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED**	**RHAETIAN**
6	**On site**	**FPL-DLDO**	**FRIARS POINT LIMESTONE FORMATION - DOLOMITISED LIMESTONE AND DOLOMITE**	**TOURNAISIAN**
7	**On site**	**FPL-LMST**	**FRIARS POINT LIMESTONE FORMATION - LIMESTONE**	**TOURNAISIAN**
8	**On site**	**PNG-MDLM**	**PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED**	**RHAETIAN**
9	**On site**	**LVN-MDST**	**LAVERNOCK SHALES MEMBER - MUDSTONE**	**HETTANGIAN**
10	**On site**	**MMG-MDST**	**MERCIA MUDSTONE GROUP - MUDSTONE**	**-**
11	**On site**	**BAN-MDST**	**BLUE ANCHOR FORMATION - MUDSTONE**	**NORIAN**
12	**On site**	**PNG-MDLM**	**PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED**	**RHAETIAN**
13	**On site**	**MMMF-CONG**	**MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE**	**-**
14	**On site**	**PNG-MDLM**	**PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED**	**RHAETIAN**
15	**On site**	**STM-LSMD**	**ST MARY'S WELL BAY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED**	**RHAETIAN**
16	**On site**	**MMG-MDST**	**MERCIA MUDSTONE GROUP - MUDSTONE**	**-**
17	**On site**	**BAN-MDST**	**BLUE ANCHOR FORMATION - MUDSTONE**	**NORIAN**
21	58m SW	PO-LSMD	PORTHKERRY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED	HETTANGIAN
22	64m SE	PO-LSMD	PORTHKERRY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED	HETTANGIAN
24	99m SW	PNG-MDLM	PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED	RHAETIAN
29	183m NW	BAN-MDST	BLUE ANCHOR FORMATION - MUDSTONE	NORIAN
30	202m SE	STM-LSMD	ST MARY'S WELL BAY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED	RHAETIAN
32	245m SW	BAN-MDST	BLUE ANCHOR FORMATION - MUDSTONE	NORIAN

ID	Location	LEX Code	Description	Rock age
33	269m NW	PNG-MDLM	PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED	RHAETIAN
35	291m S	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
36	297m S	LVN-MDST	LAVERNOCK SHALES MEMBER - MUDSTONE	HETTANGIAN
37	320m NW	PNG-MDLM	PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED	RHAETIAN
39	324m S	MMMF-CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
40	331m S	LVN-MDST	LAVERNOCK SHALES MEMBER - MUDSTONE	HETTANGIAN
42	357m N	PNG-MDLM	PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED	RHAETIAN
47	458m NW	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
48	459m S	MMMF-CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
51	487m N	PNG-MDLM	PENARTH GROUP - MUDSTONE AND LIMESTONE, INTERBEDDED	RHAETIAN
52	487m N	BAN-MDST	BLUE ANCHOR FORMATION - MUDSTONE	NORIAN
53	488m SW	MMMF-CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-

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**	**Very High**	**High**
On site	**Fracture**	**Very High**	**Very High**
On site	**Fracture**	**Very High**	**High**
On site	**Fracture**	**Low**	**Low**
On site	**Fracture**	**Low**	**Low**

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**18**

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.

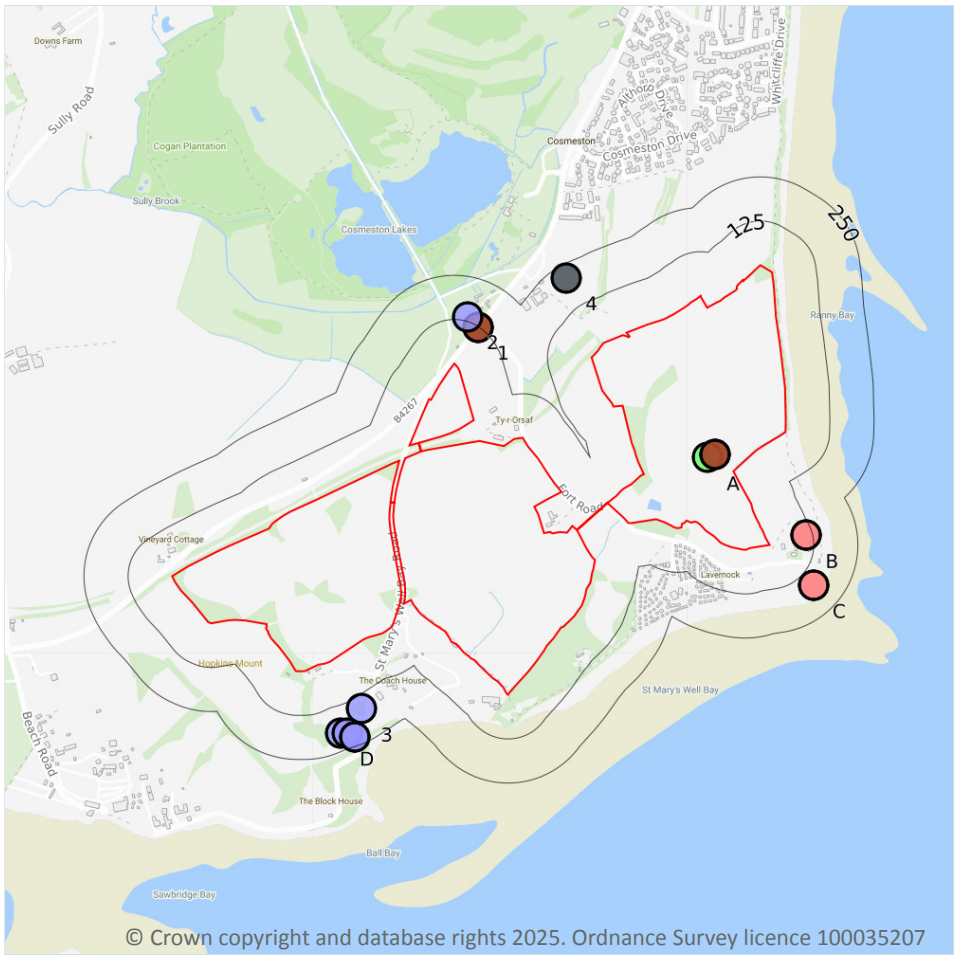
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 92 >**

ID	Location	Category	Description
18	**On site**	**FAULT**	**Fault, inferred**
19	**On site**	**FAULT**	**Fault, inferred**
20	**On site**	**FAULT**	**Fault, inferred**
23	75m NW	FAULT	Fault, inferred
25	126m N	FAULT	Fault, observed
26	127m N	FAULT	Fault, inferred
27	145m SW	FAULT	Fault, inferred
28	161m NW	FAULT	Fault, inferred
31	227m NW	FAULT	Fault, observed
34	269m NW	FAULT	Fault, observed
38	324m N	FAULT	Fault, inferred
41	350m N	FAULT	Fault, observed
43	380m S	FAULT	Fault, observed

ID	Location	Category	Description
44	434m SW	FAULT	Fault, observed, displacement unknown
45	436m S	FAULT	Fault, observed, displacement unknown
46	445m S	FAULT	Fault, observed
49	471m N	FAULT	Fault, observed
50	480m S	FAULT	Fault, observed

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m	14

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.

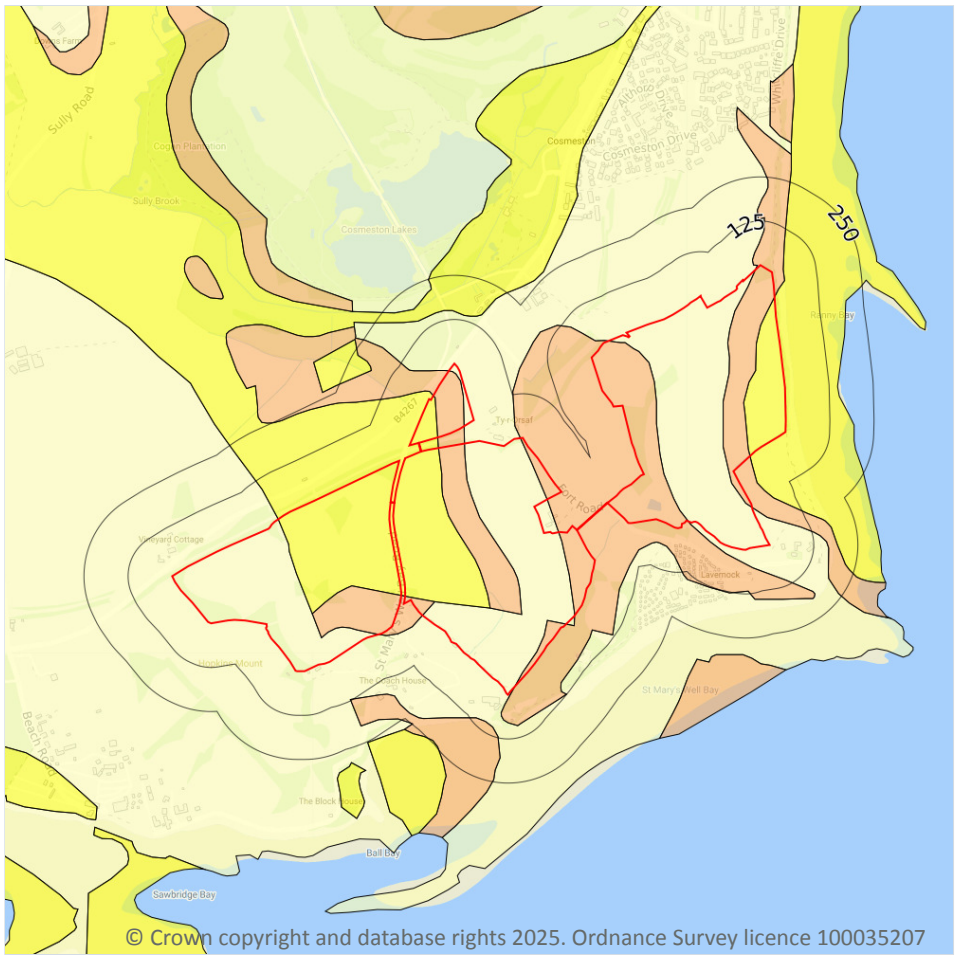
Features are displayed on the Boreholes map on **page 97 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	**On site**	**318400 168490**	**CARDIFF WESTERN DISTRICT-MAIN OUTFALL SEWER. NO.12**	**26.37**	**N**	**377797** ↗
A	**On site**	**318420 168500**	**NO 12**	**-1.0**	**N**	**377864** ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	108m E	318680 168270	LAVEMOCK SEWAGE DISPOSAL SCHEME. 1	64.25	N	377829 ↗
B	108m E	318680 168270	LAVERNOCK POINT LBH 1	64.0	N	377859 ↗
1	124m NE	317750 168860	NO 11	-1.0	N	377863 ↗
2	139m N	317720 168890	CARDIFF WESTERN DISTRICT-MAIN OUTFALL SEWER. NO.11	7.62	N	377796 ↗
3	160m SE	317420 167780	ST. MARY'S WELL BAY, CARDIFF. 5	5.0	N	377818 ↗
C	168m SE	318700 168130	LAVEMOCK SEWAGE DISPOSAL SCHEME. 2	57.5	N	377830 ↗
C	168m SE	318700 168130	LAVERNOCK POINT LBH 2	57.0	N	377860 ↗
D	202m S	317360 167710	ST. MARY'S WELL BAY, CARDIFF. 2	8.75	N	377815 ↗
D	207m S	317380 167710	ST. MARY'S WELL BAY, CARDIFF. 3	8.6	N	377816 ↗
4	213m NW	318000 169000	S. WALES PORTLAND CEMENT, CARDIFF 1-21	-	Y	N/A
D	223m S	317400 167700	ST. MARY'S WELL BAY, CARDIFF. 4	8.6	N	377817 ↗
D	223m S	317400 167700	ST. MARY'S WELL BAY, CARDIFF. BH'S.6A,7A,8A	6.45	N	377819 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	3

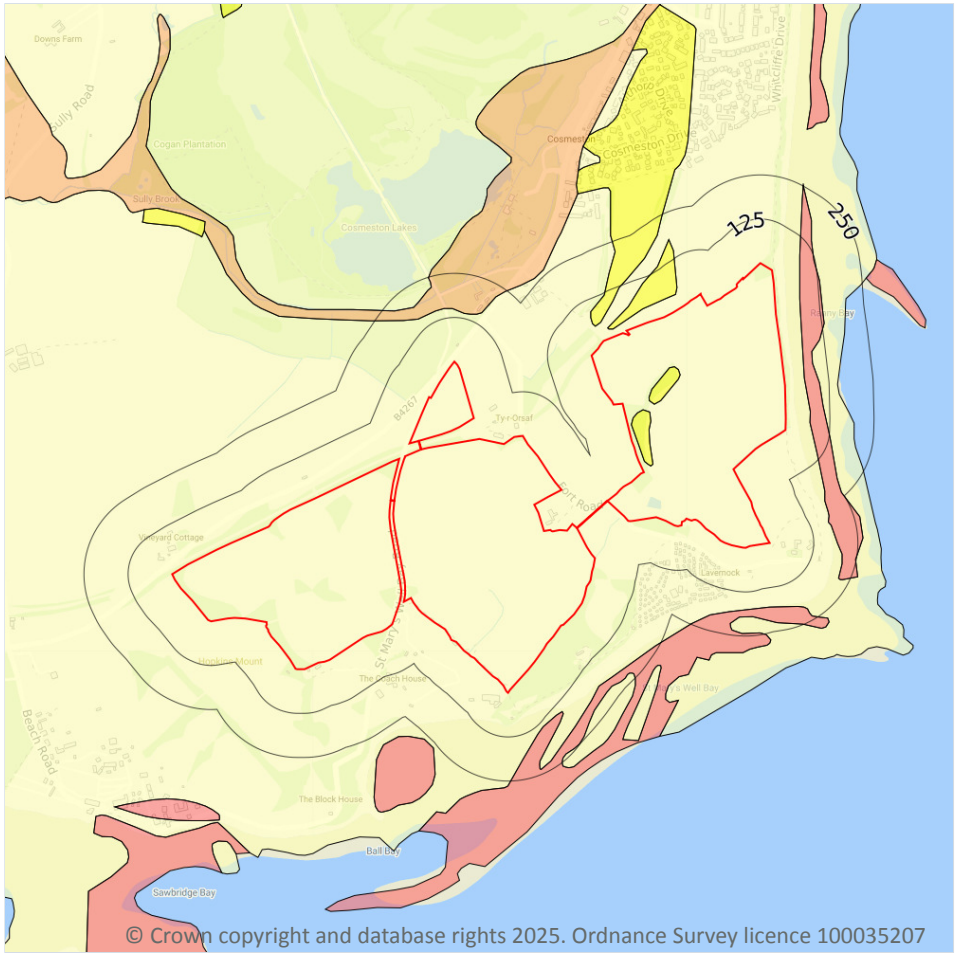
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 99 >**

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.**

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.

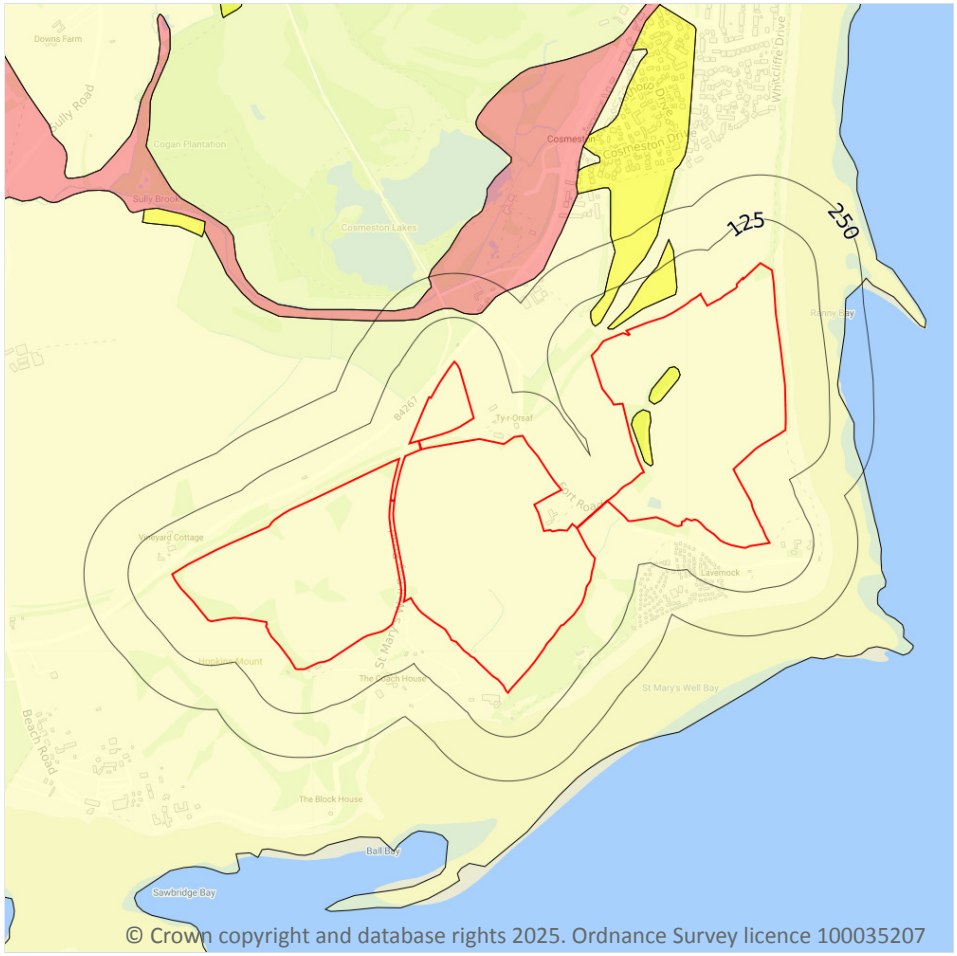
Features are displayed on the Natural ground subsidence - Running sands map on **page 101 >**

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.**
21m N	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
48m NW	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	4

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.

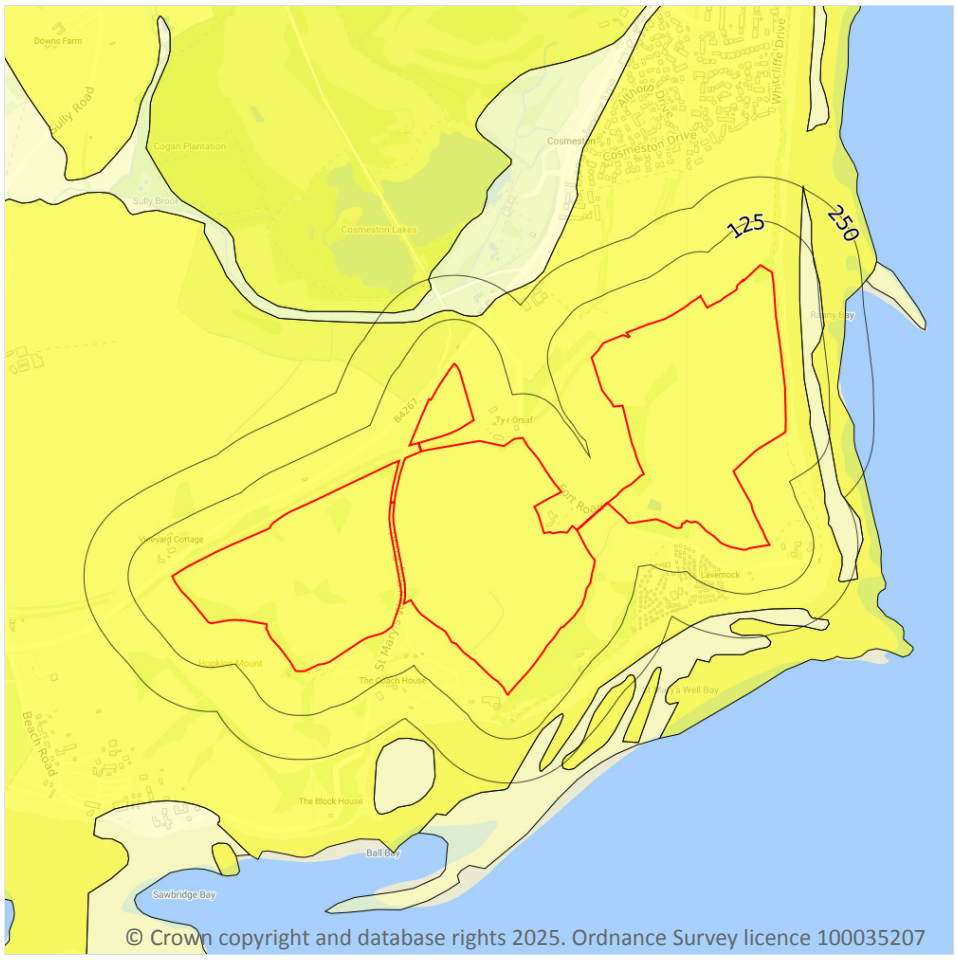
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 103 >**

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
21m N	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.
48m NW	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

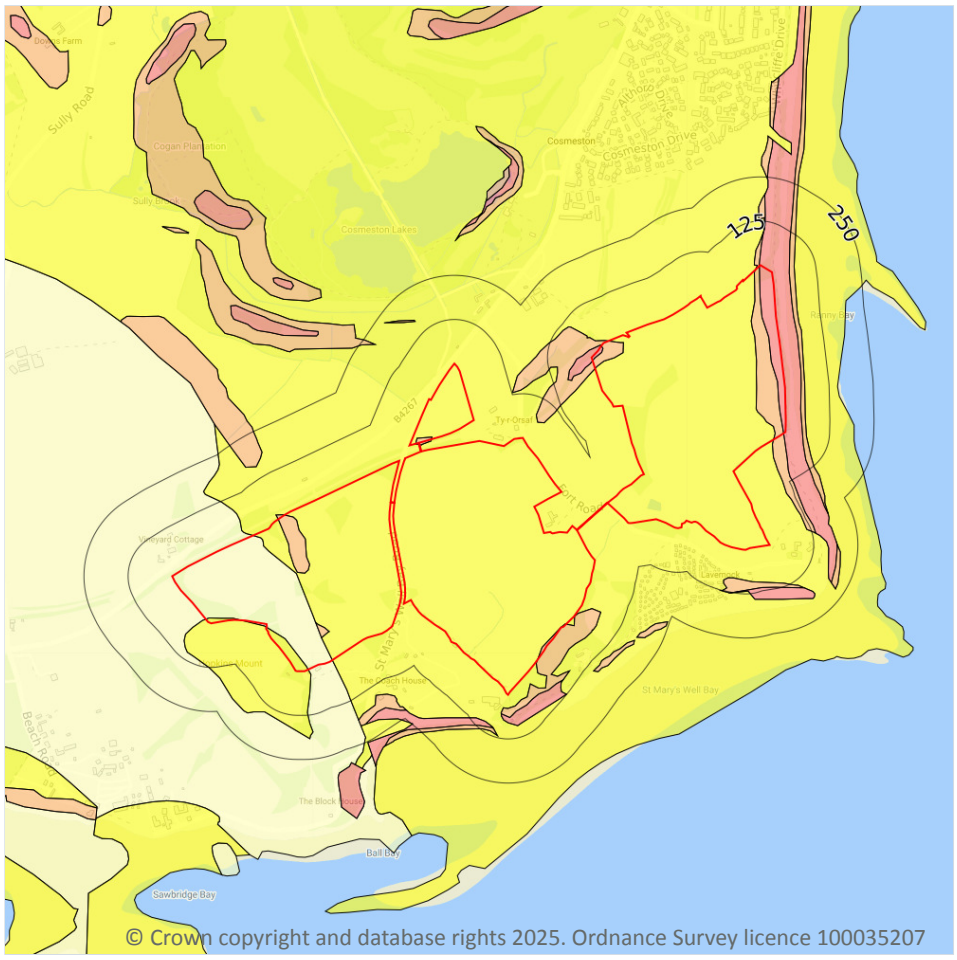
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 105 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	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.

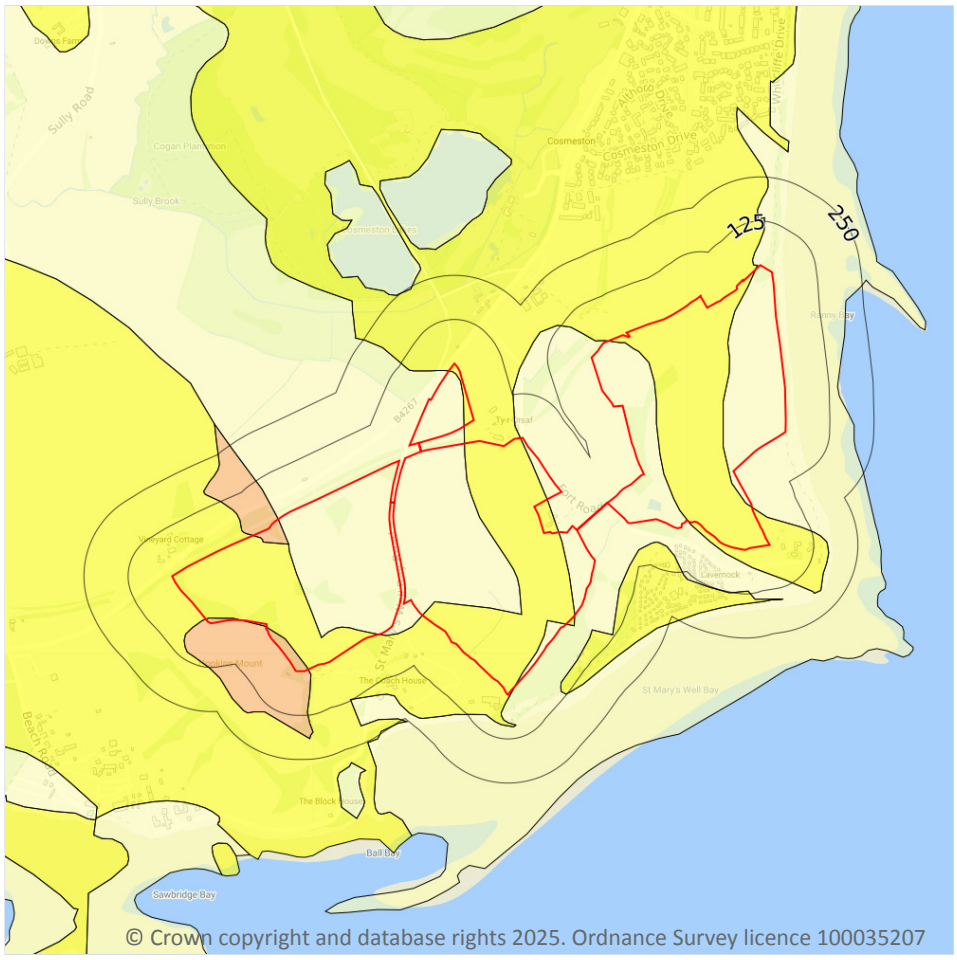
Features are displayed on the Natural ground subsidence - Landslides map on **page 106 >**

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.**
On site	**Moderate**	**Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.**
43m E	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



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	3

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

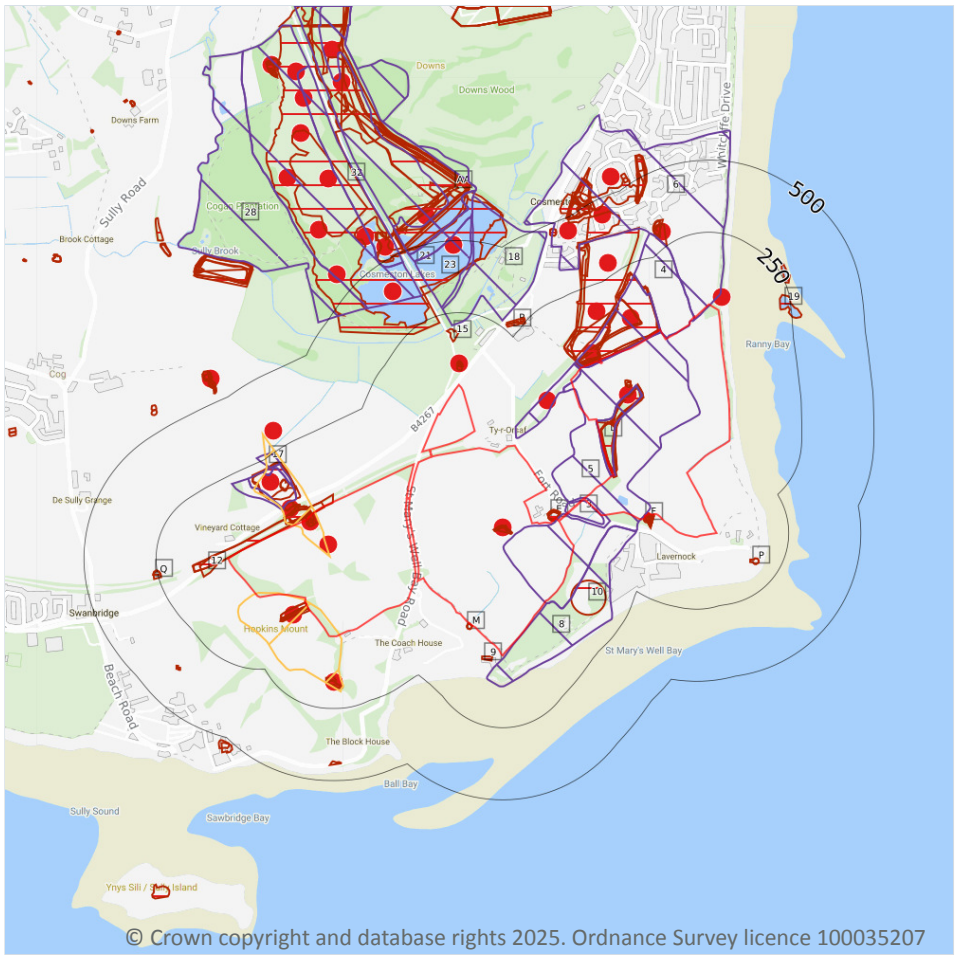
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 108 >**

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	**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.**
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.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings



Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	22

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 110 >**

ID	Location	Details	Description
1	On site	Name: Hopkins Mount Marl Pit Address: Lavernock, PENARTH, South Glamorgan Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
A	On site	Name: Cosmeston Road Quarry Address: Cosmeston Road, Lavernock, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
B	On site	Name: Downswood Address: PENARTH, Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
C	On site	Name: Sutton Address: Lavernock, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
A	27m NW	Name: Cosmeston Road Gypsum Pit Address: Cosmestone Road, Lavernock, PENARTH, South Glamorgan Commodity: Gypsum Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
J	34m N	Name: Cosmeston Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
11	44m NE	Name: Roundbush Rocks Gypsum Trial Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Gypsum Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
L	57m SW	Name: Hopkins Mount Quarry Address: Sully, BARRY, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
A	60m NW	Name: Cosmeston Road Quarry Address: Cosmeston Road, Lavernock, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
N	74m N	Name: Castle Quarry Address: Lower Cosmeston, Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
H	91m NW	Name: Cosmeston Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
K	100m W	Name: Cosmeston Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
O	160m S	Name: Hopkins Mount Quarry Address: Lavernock, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
16	160m N	Name: Cosmeston Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
A	169m NW	Name: Cogan Hall Quarry Address: Cosmeston Road, Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
24	293m NW	Name: Cosmeston Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
S	299m NW	Name: Ty-verlon Quarry Address: PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
25	313m NW	Name: Home Farm Marl Pit Address: Cog, Sully, PENARTH, South Glamorgan Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
27	397m NW	Name: Downswood Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
V	445m NW	Name: Cosmeston Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
31	457m N	Name: Cosmeston Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
33	487m N	Name: Downswood Quarry Address: Lower Penarth, PENARTH, South Glamorgan Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m **85**

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 110 >**

ID	Location	Land Use	Year of mapping	Mapping scale
2	**On site**	**Unspecified Quarry**	**1915**	**1:10560**
A	**On site**	**Unspecified Quarry**	**1947**	**1:10560**
A	**On site**	**Unspecified Old Quarry**	**1915**	**1:10560**
A	**On site**	**Unspecified Quarry**	**1898**	**1:10560**
A	**On site**	**Unspecified Old Quarry**	**1921**	**1:10560**
B	**On site**	**Refuse Heap**	**1921**	**1:10560**
B	**On site**	**Unspecified Quarry**	**1878**	**1:10560**
B	**On site**	**Refuse Heap**	**1947**	**1:10560**

ID	Location	Land Use	Year of mapping	Mapping scale
B	On site	Unspecified Quarry	1898	1:10560
B	On site	Refuse Heap	1964	1:10560
C	On site	Unspecified Old Quarry	1915	1:10560
C	On site	Unspecified Old Quarry	1898	1:10560
C	On site	Unspecified Old Quarry	1921	1:10560
D	On site	Unspecified Heap	1921	1:10560
D	On site	Unspecified Heap	1947	1:10560
D	On site	Unspecified Heap	1964	1:10560
E	On site	Pond	1878	1:10560
E	On site	Pond	1947	1:10560
E	On site	Pond	1915	1:10560
E	On site	Pond	1898	1:10560
E	On site	Pond	1964	1:10560
E	On site	Pond	1921	1:10560
F	On site	Pond	1878	1:10560
F	On site	Pond	1947	1:10560
F	On site	Pond	1972	1:10000
F	On site	Pond	1987	1:10000
F	On site	Pond	1964	1:10560
F	On site	Pond	1921	1:10560
G	On site	Refuse Heap	1915	1:10560
G	On site	Unspecified Heaps	1972	1:10000
G	On site	Unspecified Heaps	1987	1:10000
H	On site	Unspecified Old Quarry	1947	1:10560
I	On site	Cuttings	1947	1:10560
I	On site	Cuttings	1964	1:10560
J	On site	Unspecified Quarry	1922	1:10560
L	On site	Unspecified Old Quarry	1915	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
L	**On site**	**Unspecified Old Quarry**	**1898**	**1:10560**
L	1m SW	Unspecified Quarry	1964	1:10560
F	1m E	Pond	1915	1:10560
F	1m E	Pond	1898	1:10560
M	1m SW	Pond	1915	1:10560
M	1m SW	Pond	1898	1:10560
L	2m SW	Unspecified Pit	1878	1:10560
L	2m SW	Unspecified Pit	1947	1:10560
L	2m SW	Unspecified Old Quarry	1921	1:10560
H	3m NW	Unspecified Quarry	1972	1:10000
H	3m NW	Unspecified Quarry	1964	1:10560
A	4m NW	Cuttings	1972	1:10000
J	6m NW	Unspecified Quarry	1938	1:10560
A	7m NW	Cuttings	1987	1:10000
J	9m N	Unspecified Quarry	1915	1:10560
A	12m NW	Cuttings	1915	1:10560
A	12m NW	Cuttings	1898	1:10560
A	12m NW	Cuttings	1921	1:10560
9	31m SW	Pool	1987	1:10000
10	43m SE	Reservoir	1987	1:10000
12	45m SW	Cuttings	1987	1:10000
13	47m NW	Unspecified Heap	1947	1:10560
A	50m NW	Unspecified Quarry	1915	1:10560
A	50m NW	Unspecified Quarry	1898	1:10560
A	50m NW	Unspecified Quarry	1921	1:10560
N	51m N	Unspecified Pit	1922	1:10560
N	63m N	Unspecified Pit	1947	1:10560
N	65m N	Unspecified Pit	1915	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
N	66m N	Unspecified Pit	1938	1:10560
N	66m N	Unspecified Pit	1938	1:10560
N	69m N	Unspecified Pit	1915	1:10560
A	72m NW	Refuse Heap	1972	1:10000
A	97m NW	Unspecified Quarry	1947	1:10560
A	105m NW	Unspecified Quarry	1964	1:10560
A	122m NW	Unspecified Old Quarry	1915	1:10560
A	122m NW	Unspecified Old Quarry	1921	1:10560
O	140m S	Unspecified Quarry	1878	1:10560
P	149m SE	Filter Bed	1972	1:10000
P	149m SE	Filter Bed	1987	1:10000
15	152m N	Unspecified Ground Workings	1964	1:10560
O	152m S	Unspecified Old Quarry	1915	1:10560
O	153m S	Unspecified Old Quarry	1921	1:10560
19	213m E	Ponds	1987	1:10000
20	224m NW	Limestone Quarry	1972	1:10000
Q	240m W	Unspecified Pit	1964	1:10560
Q	241m W	Unspecified Pit	1947	1:10560
21	245m NW	Water Bodies	1987	1:10000
R	248m NW	Ponds	1879	1:10560
S	248m NW	Unspecified Old Quarry	1922	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 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.

18.4 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	20

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.

Features are displayed on the Mining and ground workings map on **page 110 >**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
3	**On site**	**Cosmeston**	**Not available**	**Not available**	**Not available**	**Not available**
4	**On site**	**Cosmeston**	**Not available**	**Not available**	**Not available**	**Not available**
5	**On site**	**Cosmeston**	**Not available**	**Not available**	**Not available**	**Not available**
6	**On site**	**Cosmeston**	**Not available**	**Not available**	**Not available**	**Not available**
G	**On site**	**Cosmeston**	**Not available**	**Not available**	**Not available**	**Not available**
H	**On site**	**Cosmeston**	**Not available**	**Not available**	**Not available**	**Not available**
K	**On site**	**Cosmeston**	**Not available**	**Not available**	**Not available**	**Not available**
8	2m SE	Cosmeston	Not available	Not available	Not available	Not available
14	66m NW	Cogan Hall	Not available	Not available	Not available	Not available
A	69m NW	Cogan Hall	Not available	Not available	Not available	Not available
A	118m NW	Cogan Hall	Not available	Not available	Not available	Not available
17	206m NW	Cogan Hall	Not available	Not available	Not available	Not available
18	208m N	Downs Wood	Not available	Not available	Not available	Not available
23	275m N	Downs Wood	Not available	Not available	Not available	Not available
26	334m NW	Downs Wood	Not available	Not available	Not available	Not available
28	414m NW	Downs Wood	Not available	Not available	Not available	Not available

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
X	449m N	Downs Wood	Not available	Not available	Not available	Not available
32	467m NW	Downs Wood	Not available	Not available	Not available	Not available
AA	483m N	Downs Wood	Not available	Not available	Not available	Not available
AA	483m N	Downs Wood	Not available	Not available	Not available	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	2

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 110 >**

ID	Location	Name	Commodity	Class	Likelihood
7	**On site**	**Not available**	**Vein Mineral**	**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**	**Vein Mineral**	**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	0

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.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

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

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

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

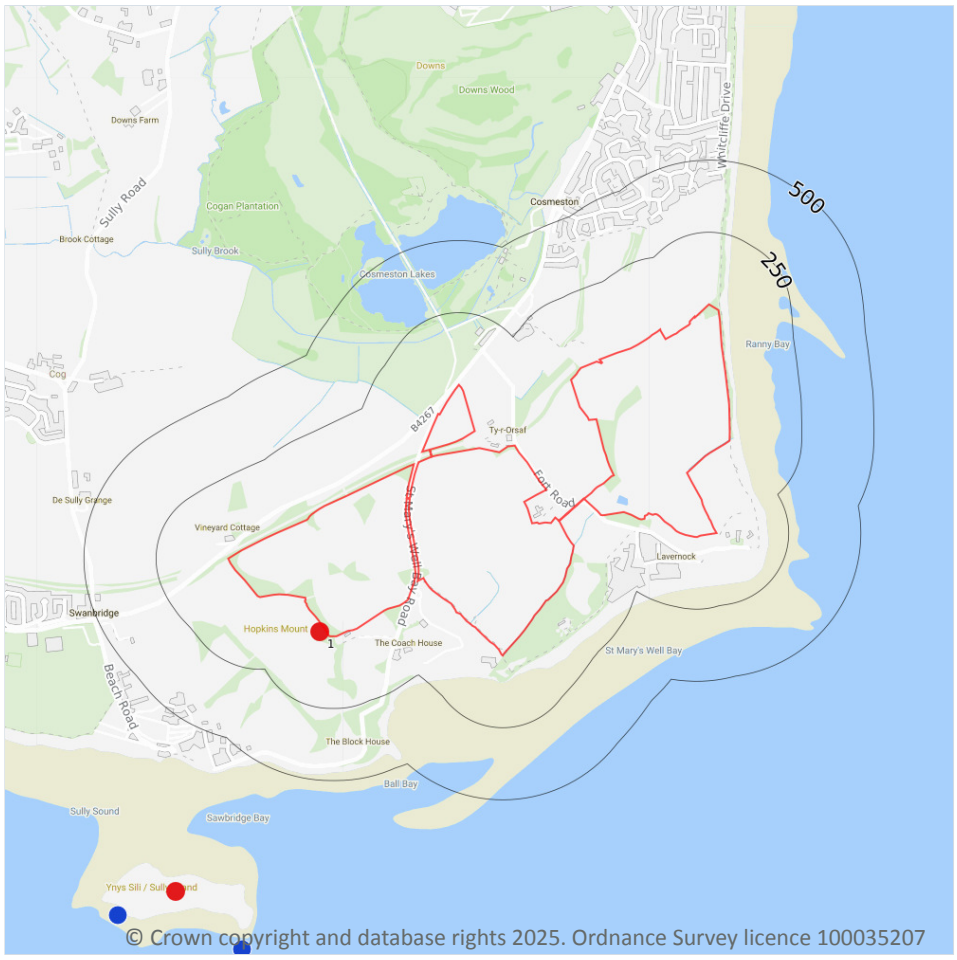
18.16 Clay mining

Records on site	0

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

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

19 Ground cavities and sinkholes



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

Mining cavities

Reported recent incidents

Historical incidents

19.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	1

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

Features are displayed on the Ground cavities and sinkholes map on **page 124 >**

ID	Location	Mine Address	Mineral
1	21m SW	Lavernock, South Glamorgan	-

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

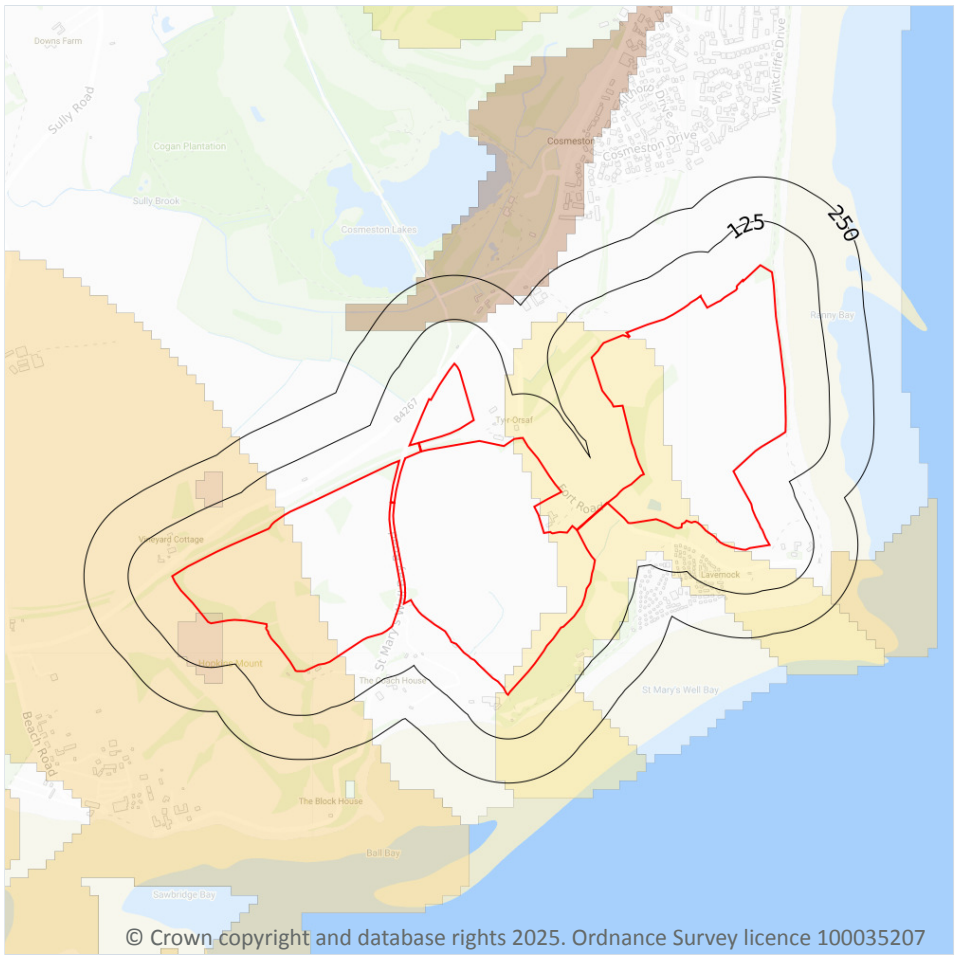
Records within 500m	0

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

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

This data is sourced from Groundsure.

20 Radon



20.1 Radon

Records on site	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 126 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 5% and 10%**	**Basic**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 1% and 3%**	**None**
On site	**Between 3% and 5%**	**Basic**
On site	**Less than 1%**	**None**

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	76

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 km^2. 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 km^2; 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**	**50 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**	**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**	**40 - 60 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 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 - 25 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 - 25 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 - 25 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 - 25 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 - 25 mg/kg**	**No data**	**100 mg/kg**	**50 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

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	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 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 - 25 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 - 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	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 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 - 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	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 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**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 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**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 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**

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**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 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**	**30 - 45 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
1m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
6m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
6m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
7m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
7m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
14m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
14m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
21m S	15 - 25 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
21m S	15 - 25 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
22m S	15 - 25 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
22m S	15 - 25 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
27m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
32m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
32m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
36m SW	15 - 25 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
36m SW	15 - 25 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
44m SE	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 km^2).

This data is sourced from the British Geological Survey.

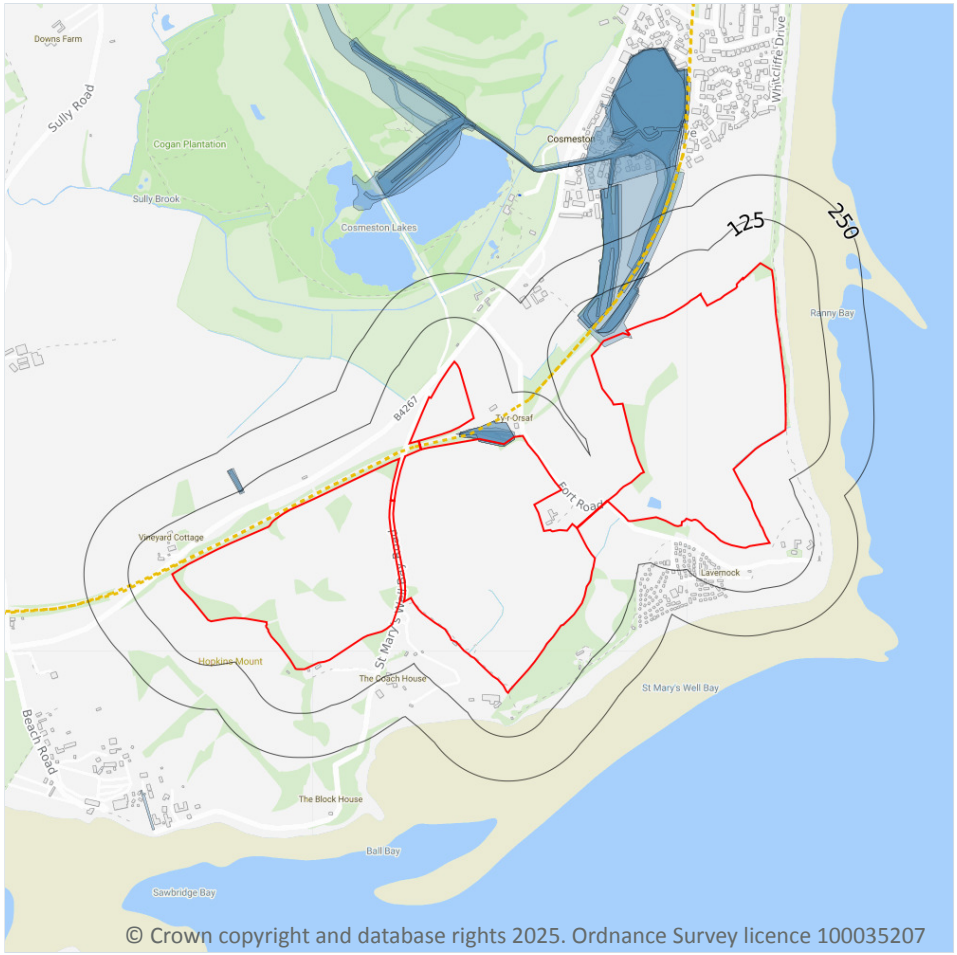
21.3 BGS Measured Urban Soil Chemistry

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 km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

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	23

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 134 >**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway Sidings**	**1900**	**2500**
On site	**Railway Sidings**	**1920**	**2500**
On site	**Railway Sidings**	**1940**	**2500**
On site	**Railway Sidings**	**1947**	**10560**
On site	**Railway Sidings**	**1915**	**10560**
On site	**Railway Sidings**	**1898**	**10560**
On site	**Railway Sidings**	**1964**	**10560**
On site	**Railway Sidings**	**1922**	**10560**
On site	**Railway Sidings**	**1921**	**10560**
11m N	Railway Sidings	1915	10560
16m N	Tramway Sidings	1920	2500
18m N	Railway Sidings	1938	10560
18m N	Railway Sidings	1915	10560
48m NW	Tramway Sidings	1938	10560
54m NW	Railway Sidings	1915	10560
54m NW	Tramway Sidings	1915	10560
103m N	Railway Sidings	1915	10560

Location	Land Use	Year of mapping	Mapping scale
115m NW	Railway Sidings	1964	10560
120m NW	Railway Sidings	1943	2500
122m NW	Railway Sidings	1947	10560
137m N	Railway Sidings	1968	2500
152m N	Tramway Sidings	1964	10560
161m N	Railway Sidings	1940	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	**10**

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 134 >**

Location	Description
On site	**Abandoned**
6m NW	Abandoned
6m NW	Historical OSM
13m S	Abandoned
16m NW	Razed
46m NW	Abandoned
47m NW	Historical OSM

Location	Description
73m N	Abandoned
81m N	Abandoned
180m W	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 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m	0

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

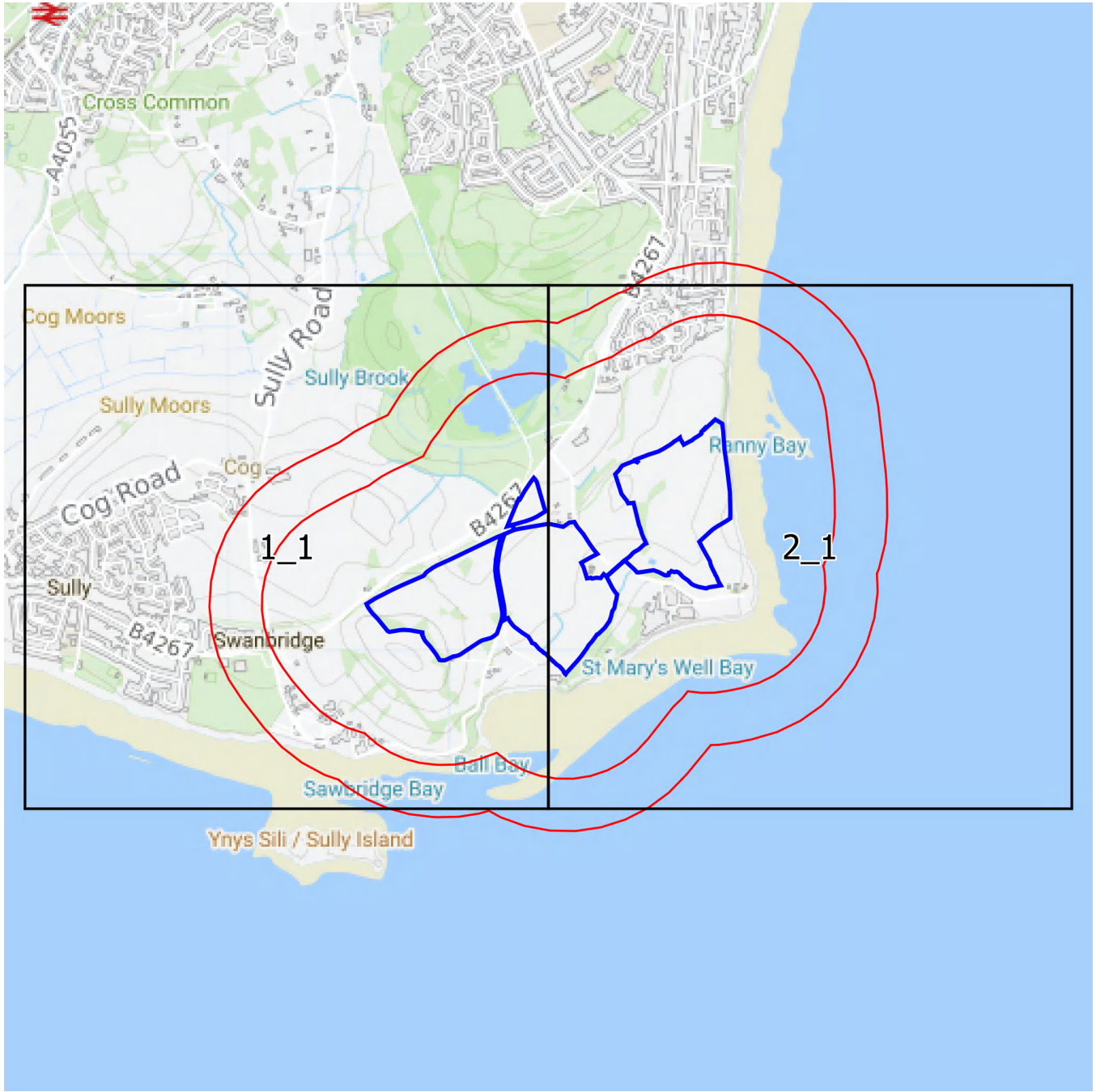
This data is sourced from HS2 ltd.

Data providers

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

Terms and conditions

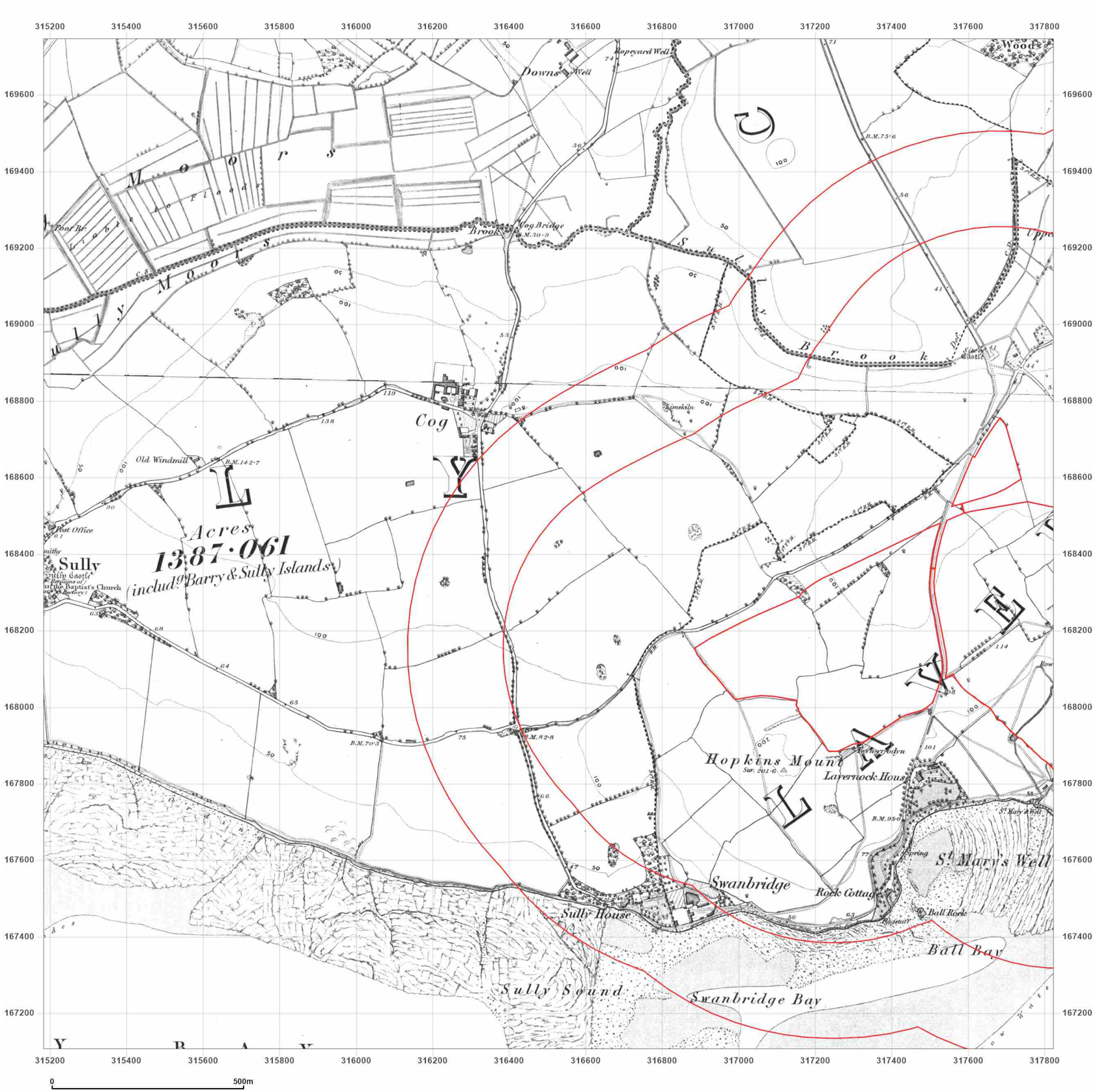
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Groundsure INSIGHTS

Small Scale Grid Index

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: County Series

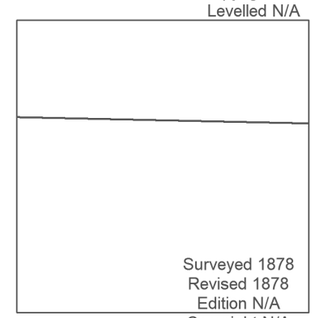
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Scale: 1:10,560

Printed at: 1:10,560

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Revised 1879
Edition N/A
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Revised 1878
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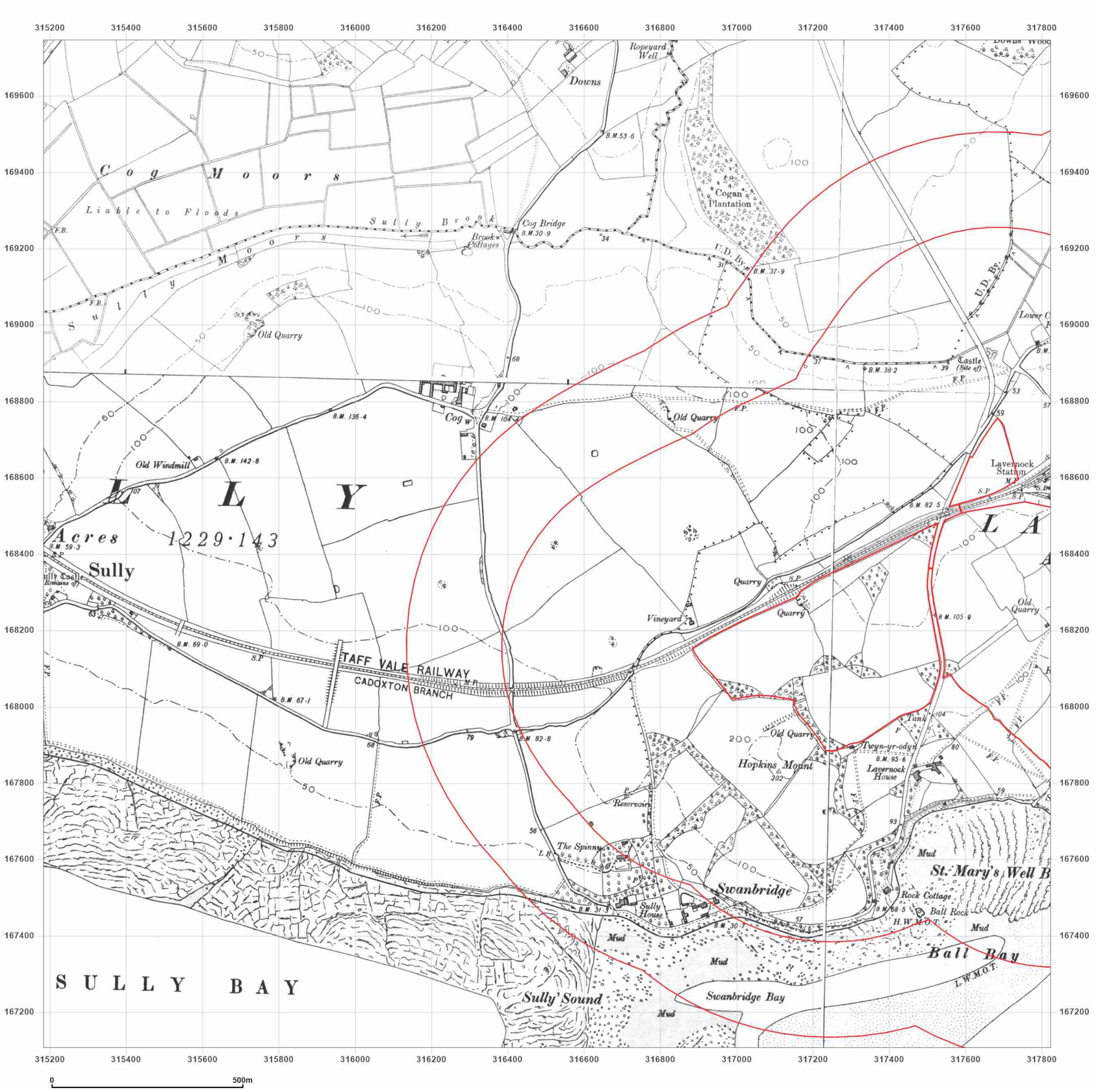
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Map legend available at:
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: County Series

Map date: **1898-1899**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1878
Revised 1899
Edition N/A
Copyright N/A
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Revised 1898
Edition N/A
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Levelled N/A

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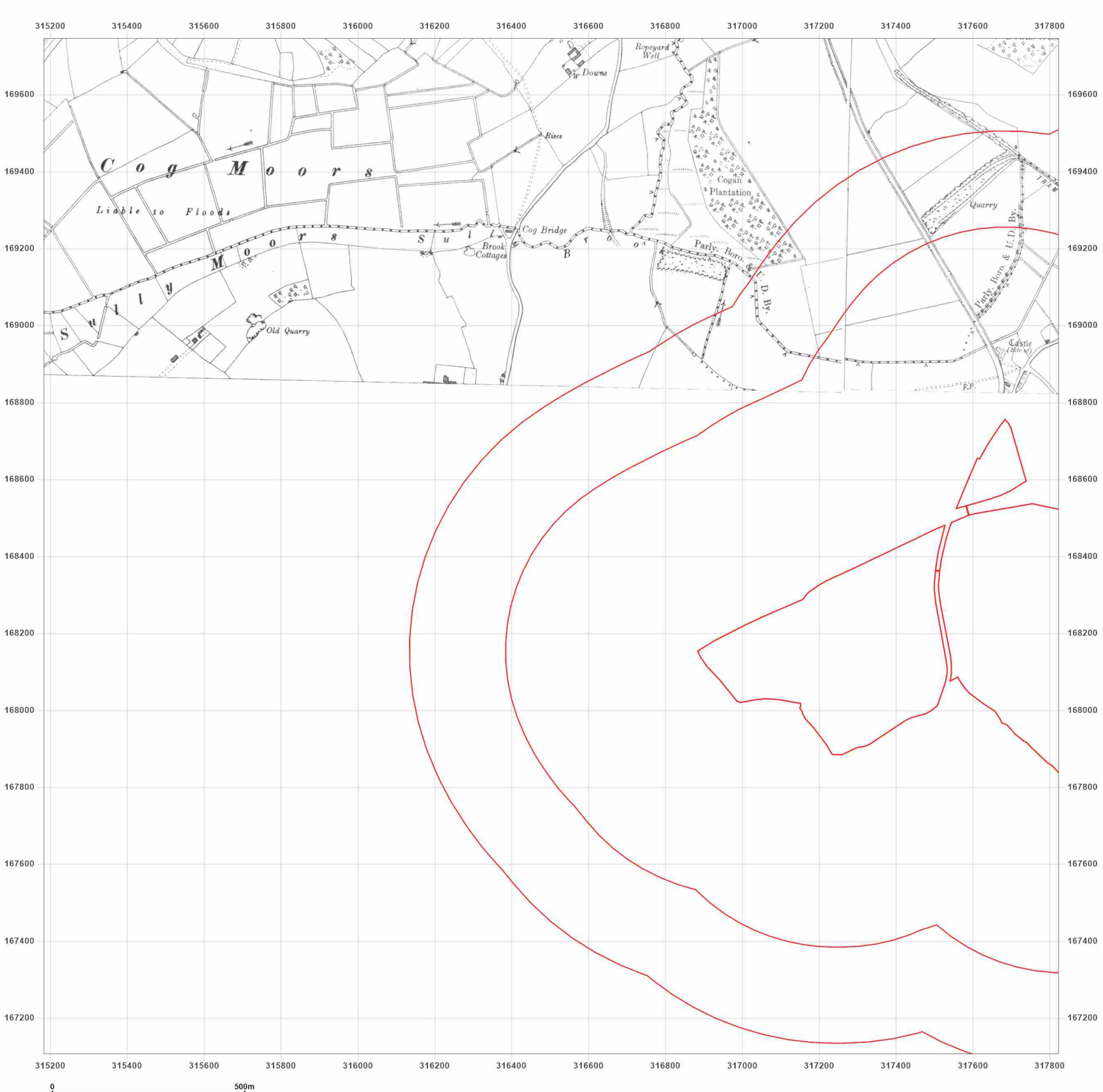
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Map legend available at:
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: County Series

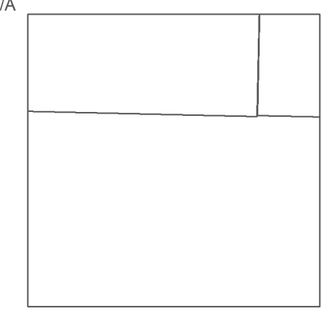
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Scale: 1:10,560

Printed at: 1:10,560

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Revised 1915
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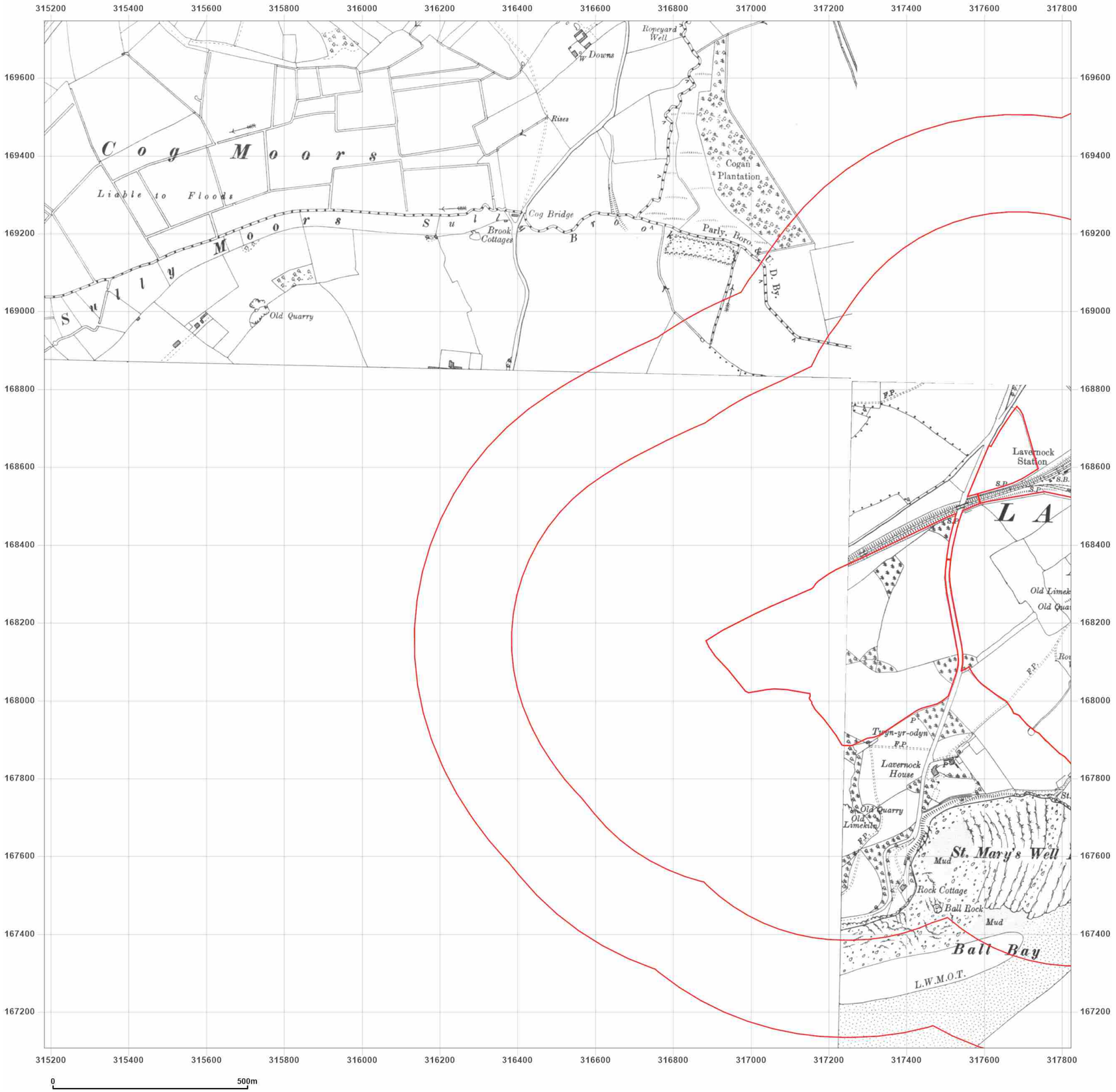
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Site Details:

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Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: County Series

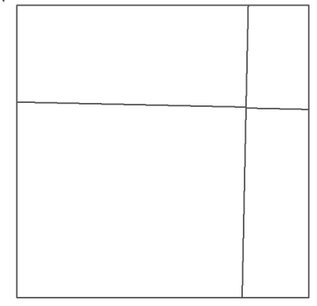
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Scale: 1:10,560

Printed at: 1:10,560

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Levelled N/A

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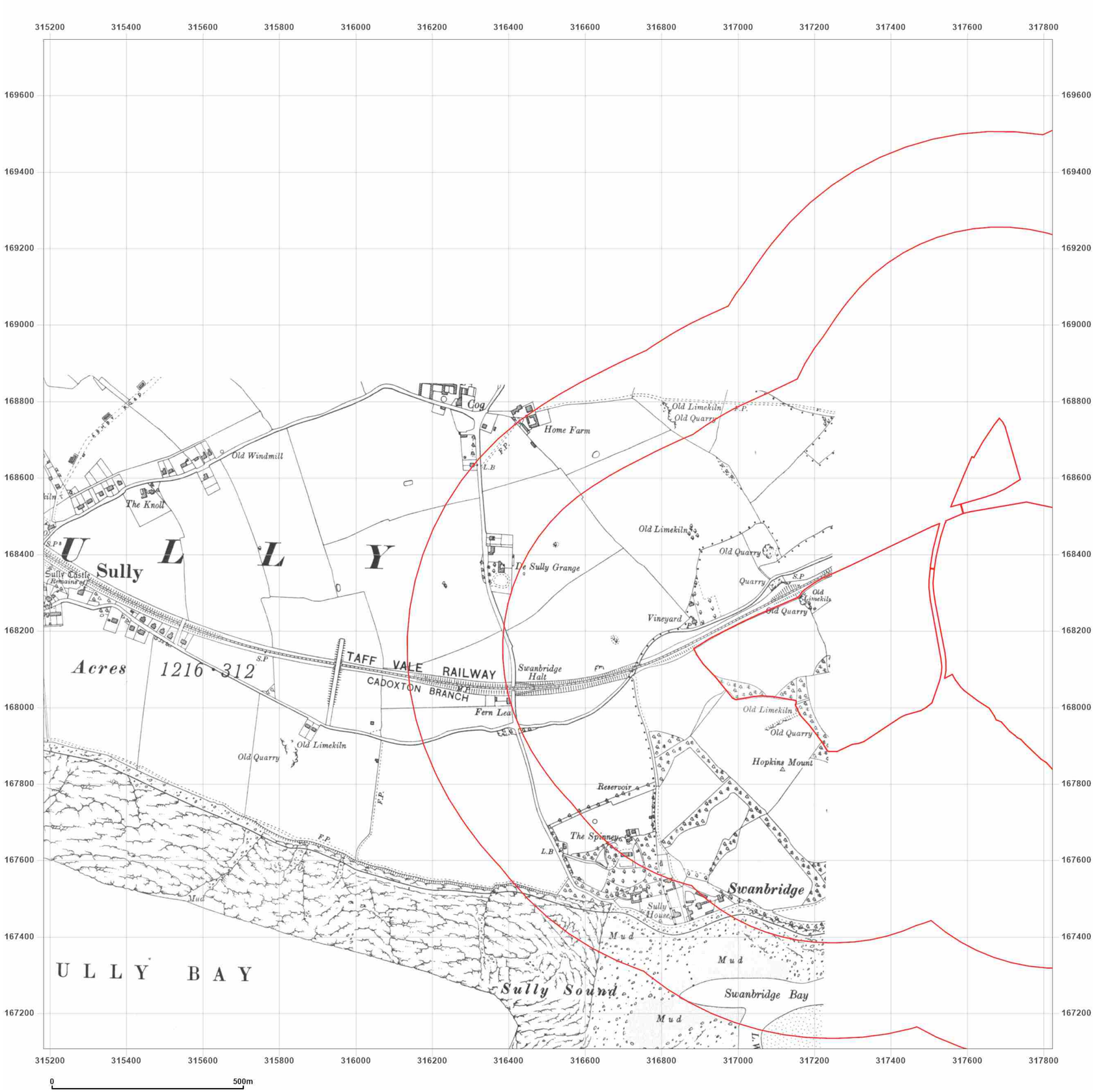
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

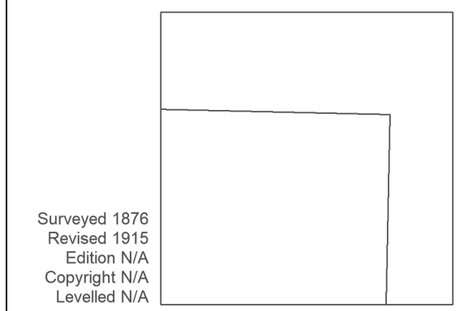
Map Name: County Series

Map date: **1915**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



Surveyed 1876
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A

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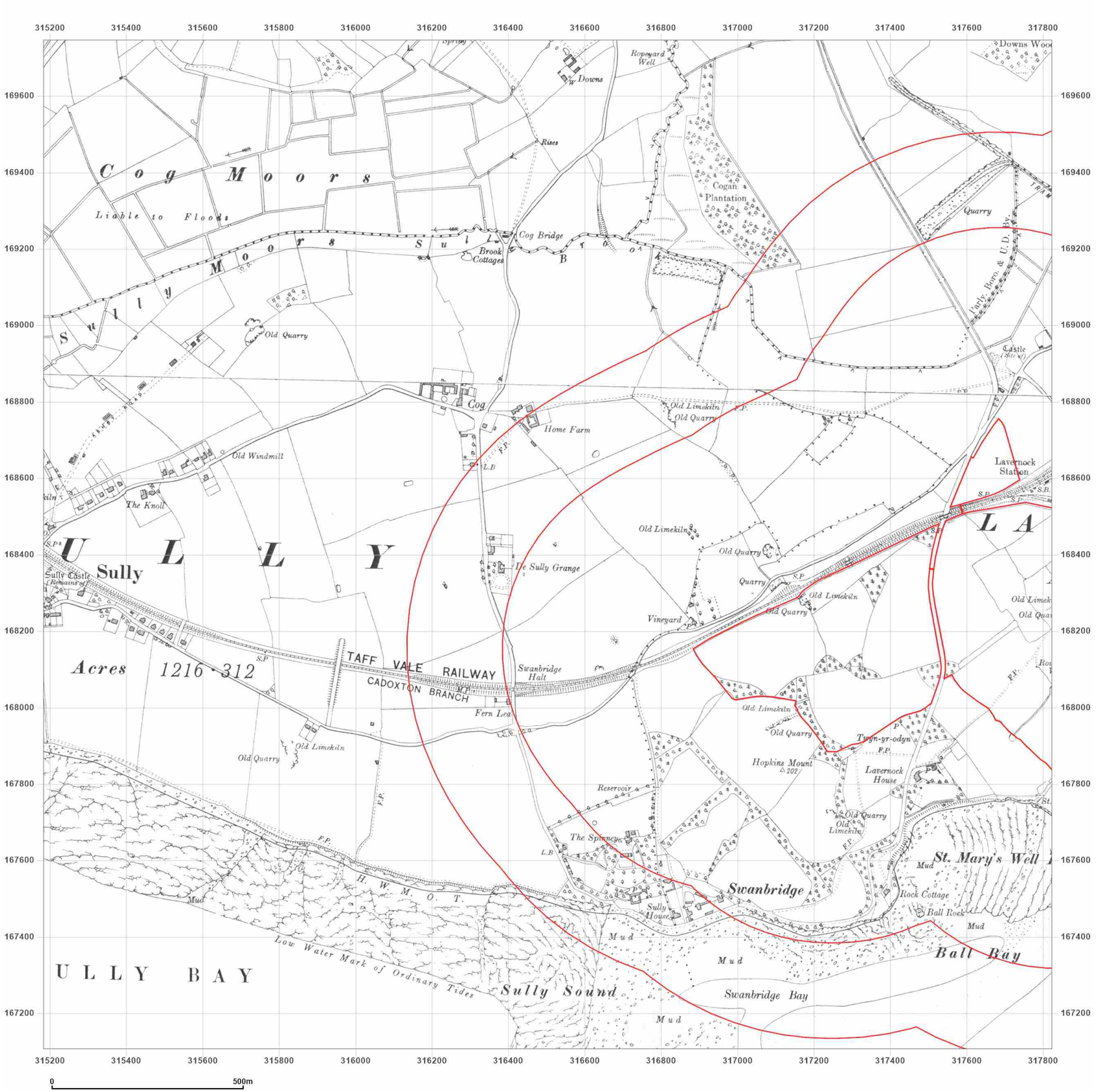
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Production date: 25 June 2025

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: County Series

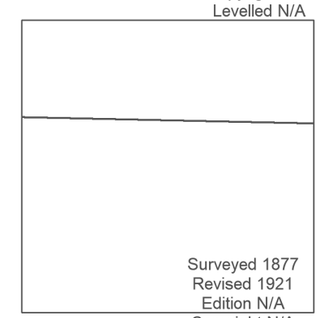
Map date: **1921-1922**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1878
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1877
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: County Series

Map date: **1947**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1877
Revised 1947
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1947
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1947
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1947
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: Provisional

Map date: **1964**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1964
Edition N/A
Copyright 1964
Levelled N/A

Groundsure INSIGHTS

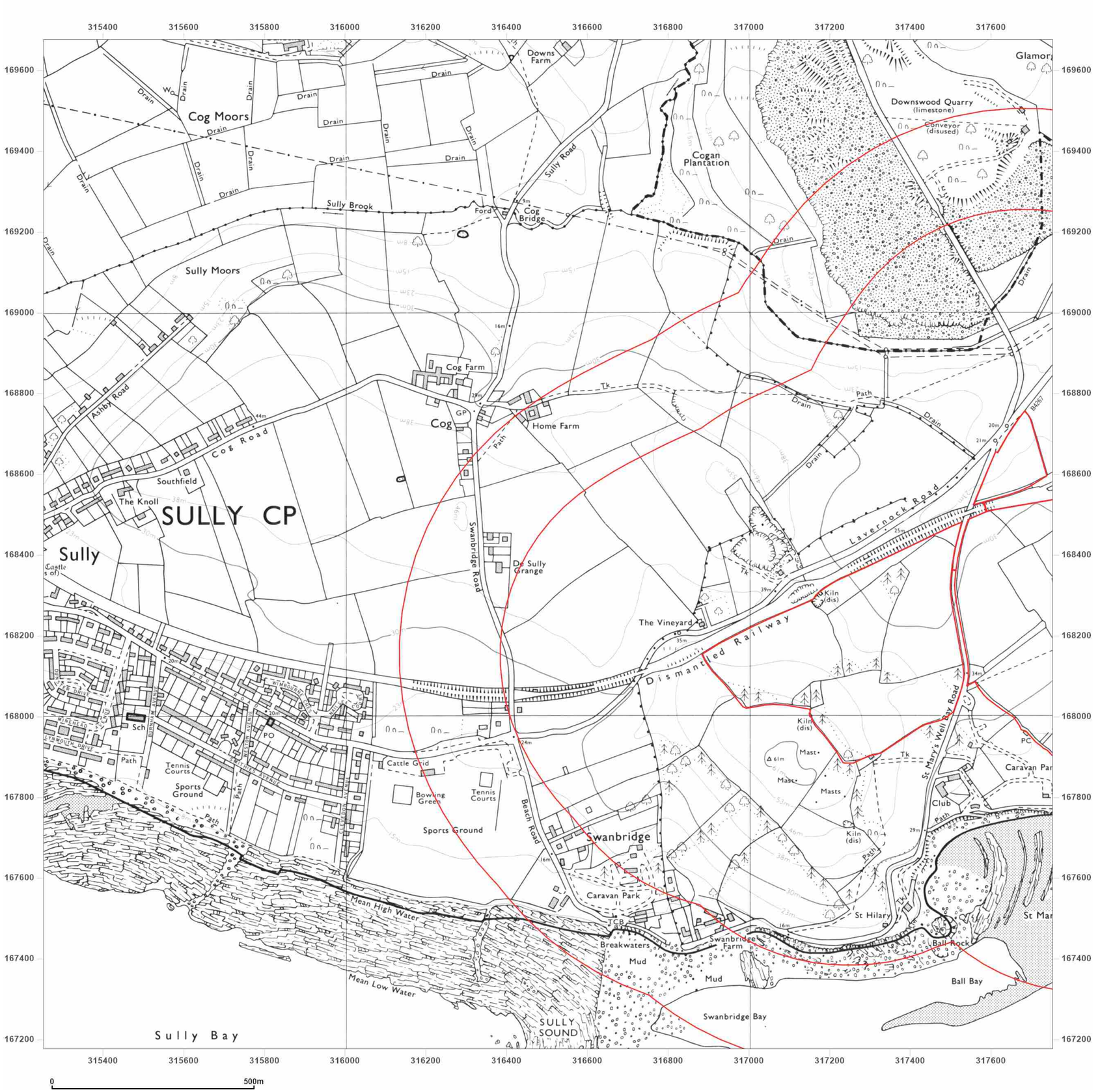
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: National Grid

Map date: **1972**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1970
Revised 1972
Edition N/A
Copyright 1972
Levelled N/A

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: National Grid

Map date: **1987**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1986
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
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2001

Groundsure INSIGHTS

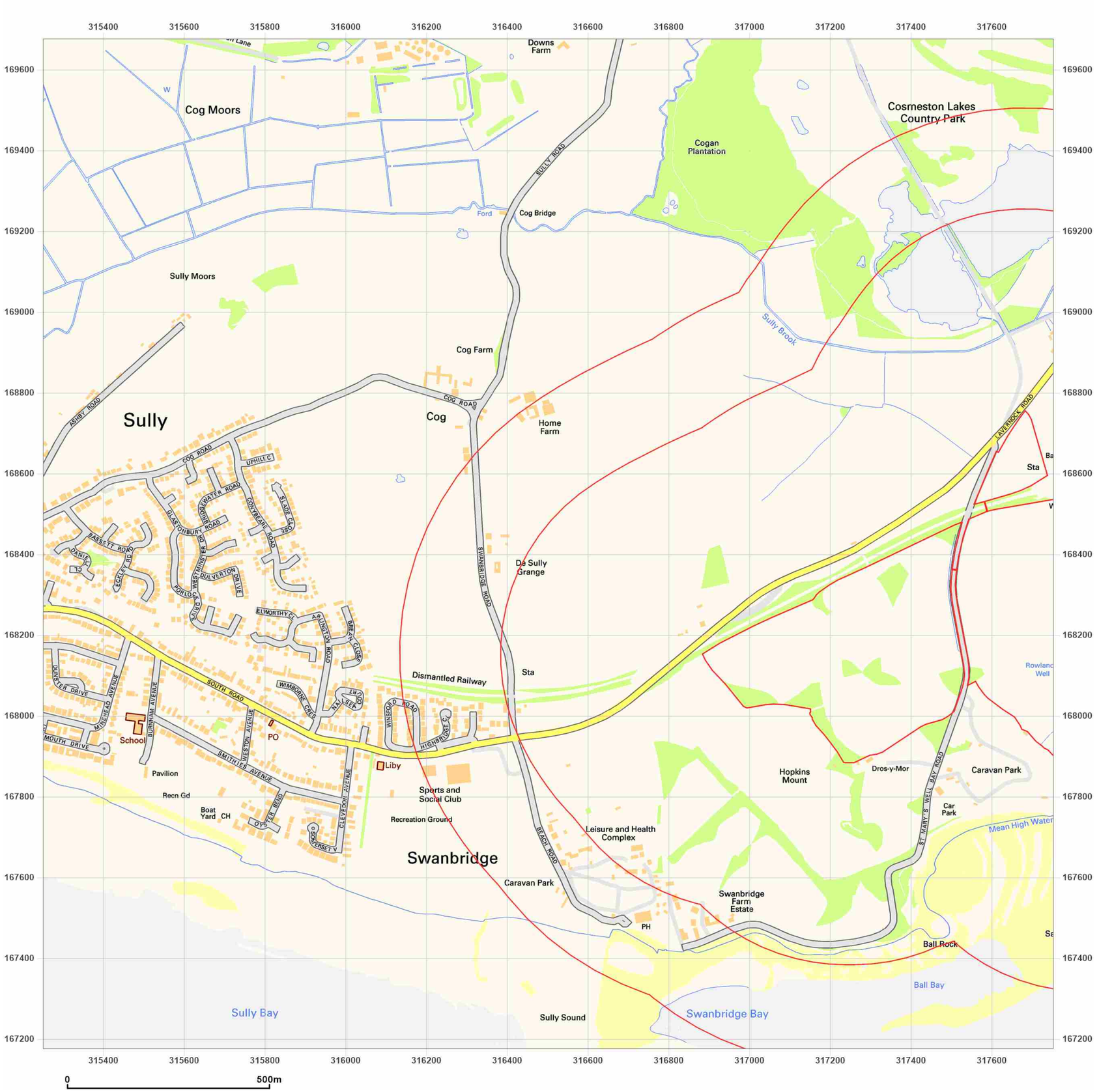
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WSP

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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2010

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_1_1
Grid Ref: 316502, 168426

Map Name: National Grid

Map date: **2025**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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2025

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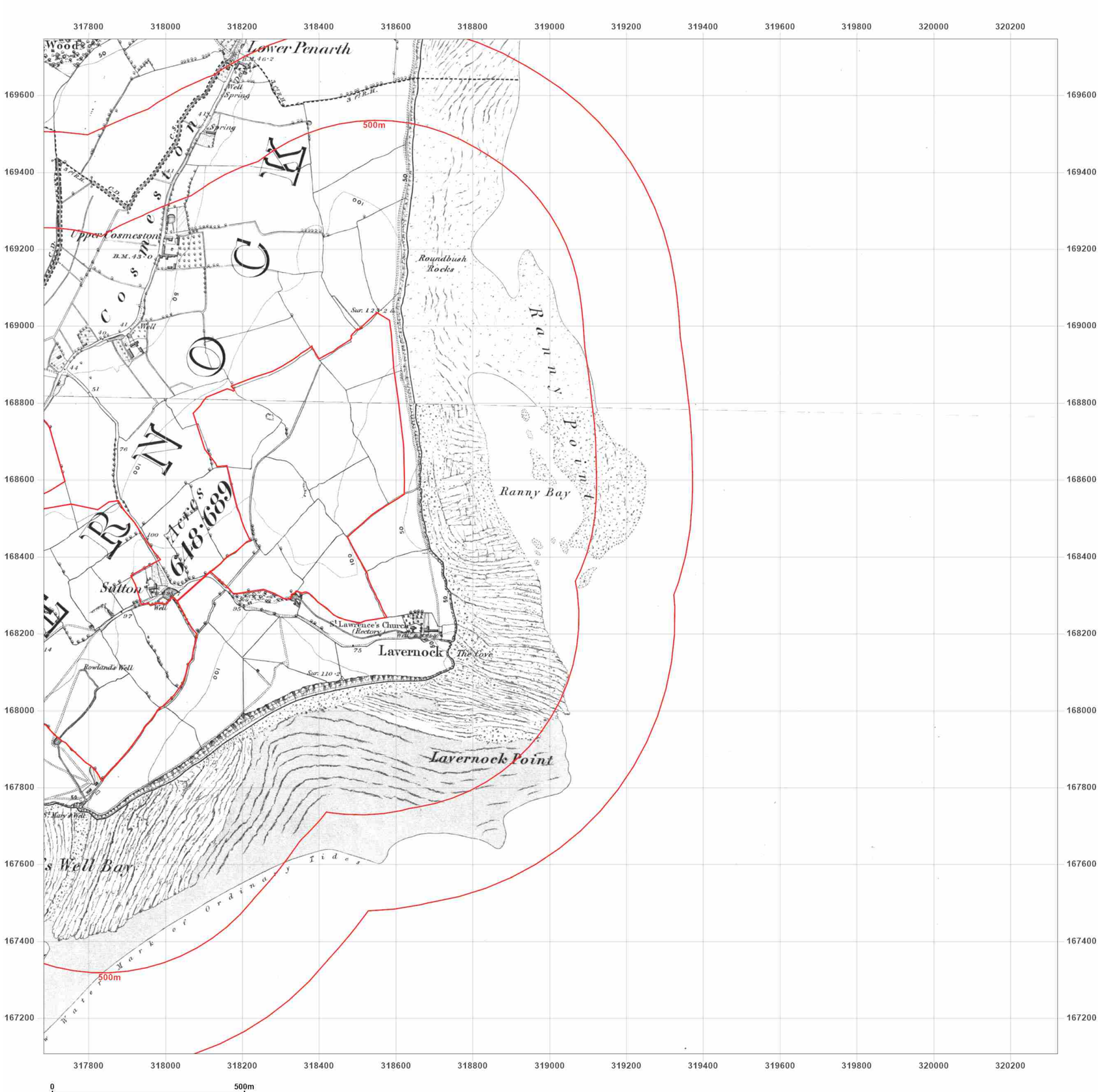
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

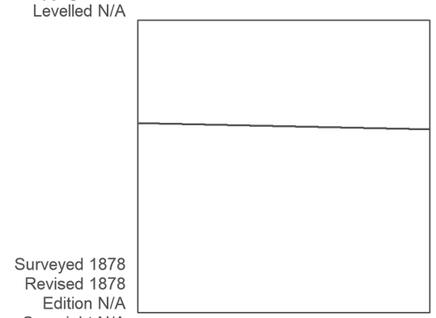
Map date: **1878-1879**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1878
Revised 1878
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

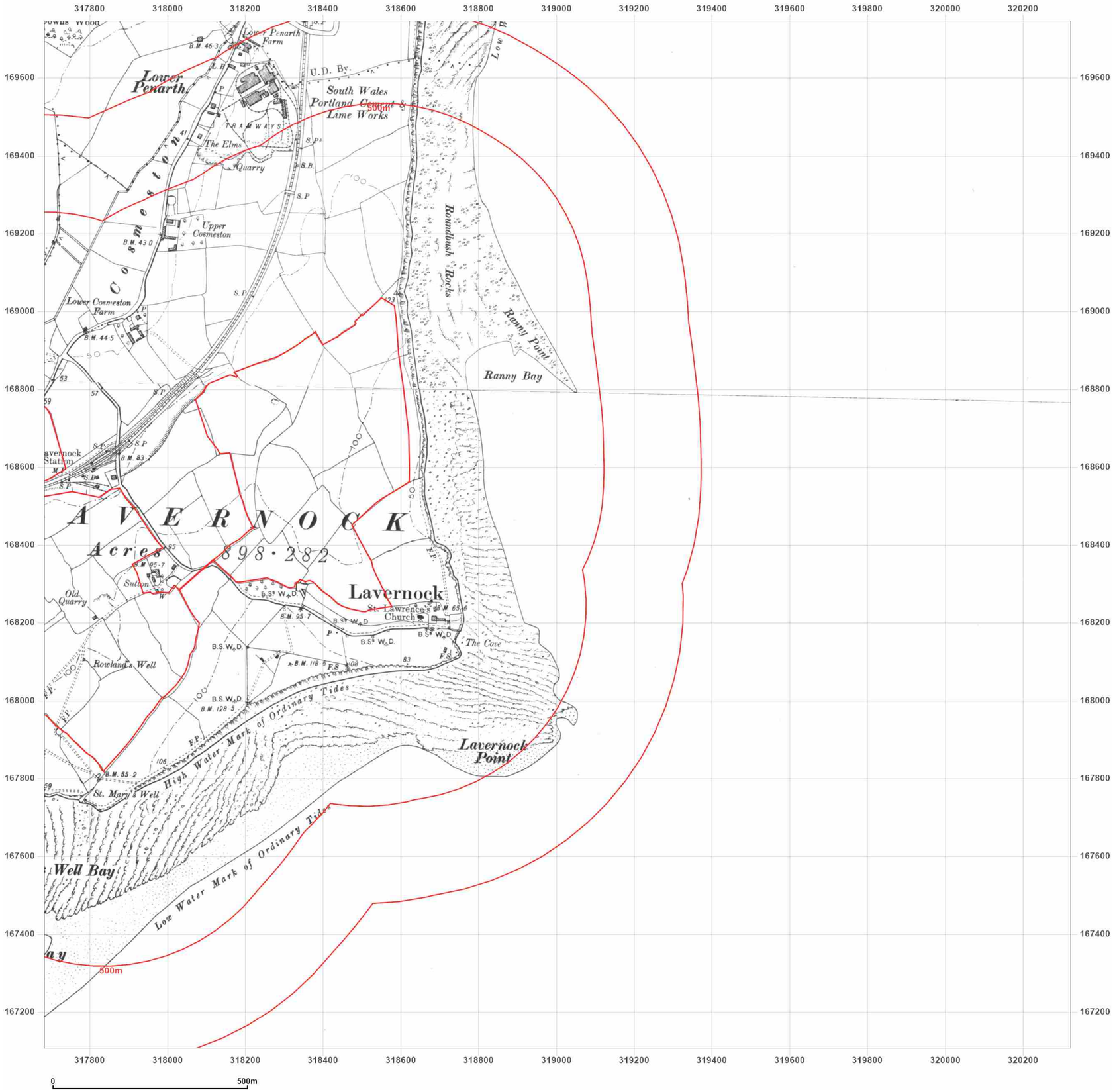
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

Map date: **1898-1899**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1878
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

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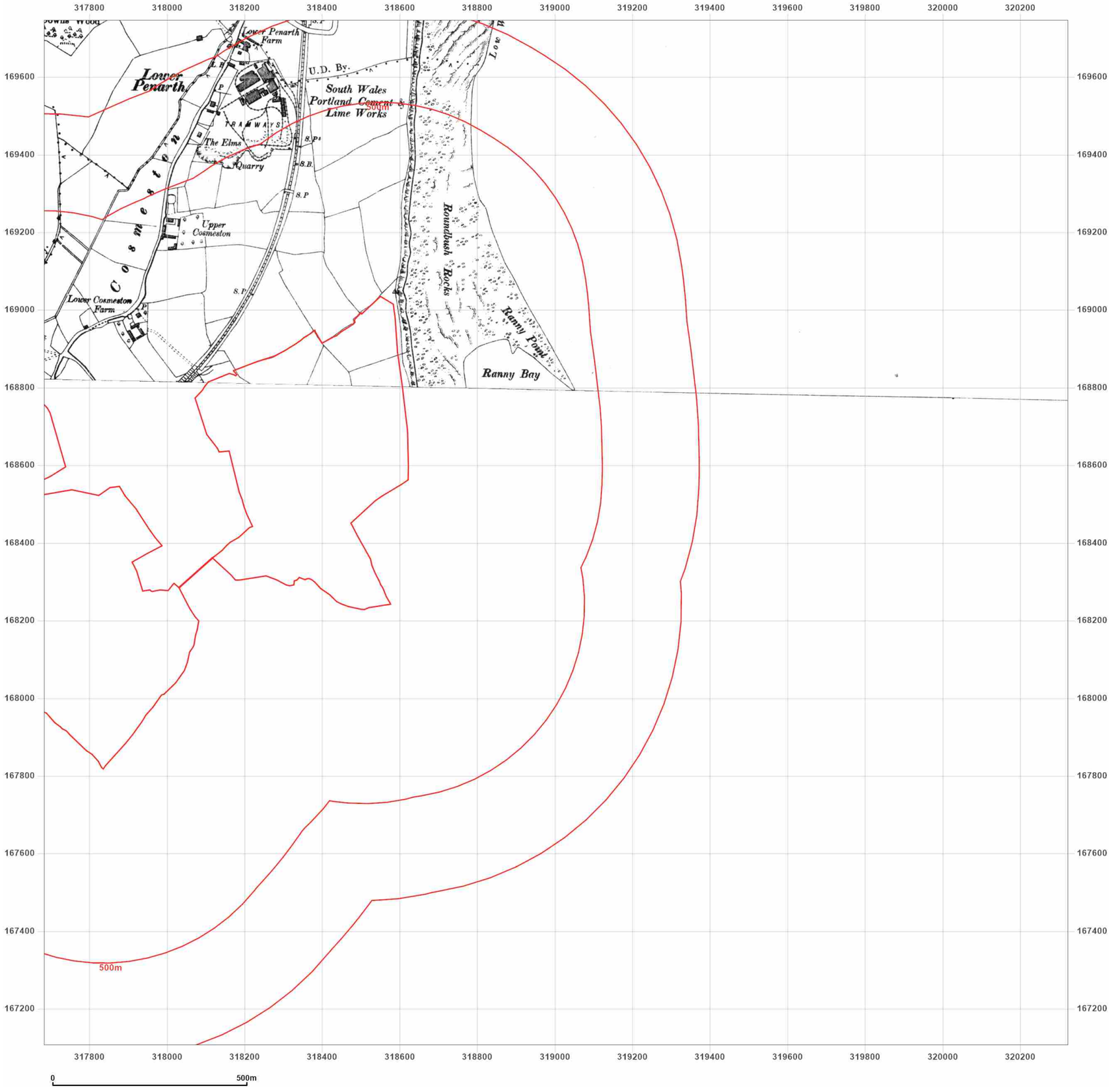
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

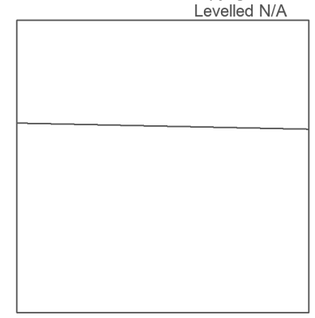
Map date: **1901**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1877
Revised 1899
Edition 1901
Copyright N/A
Levelled N/A



Groundsure INSIGHTS

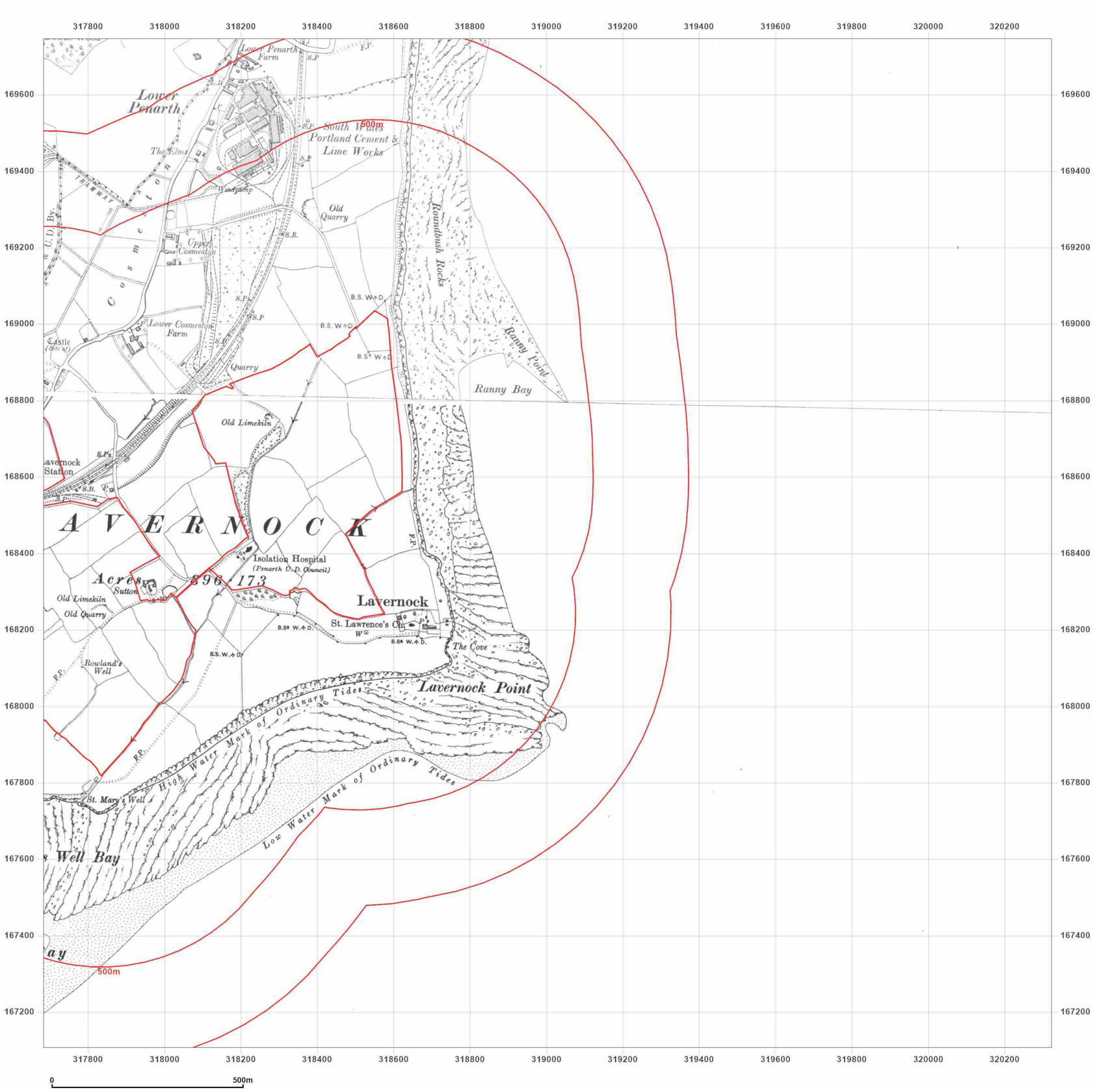
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

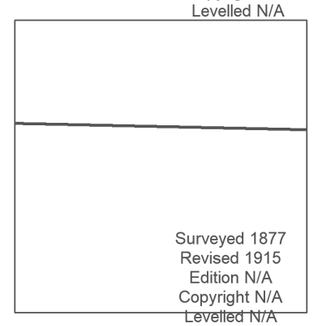
Map date: **1915**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1877
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1877
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

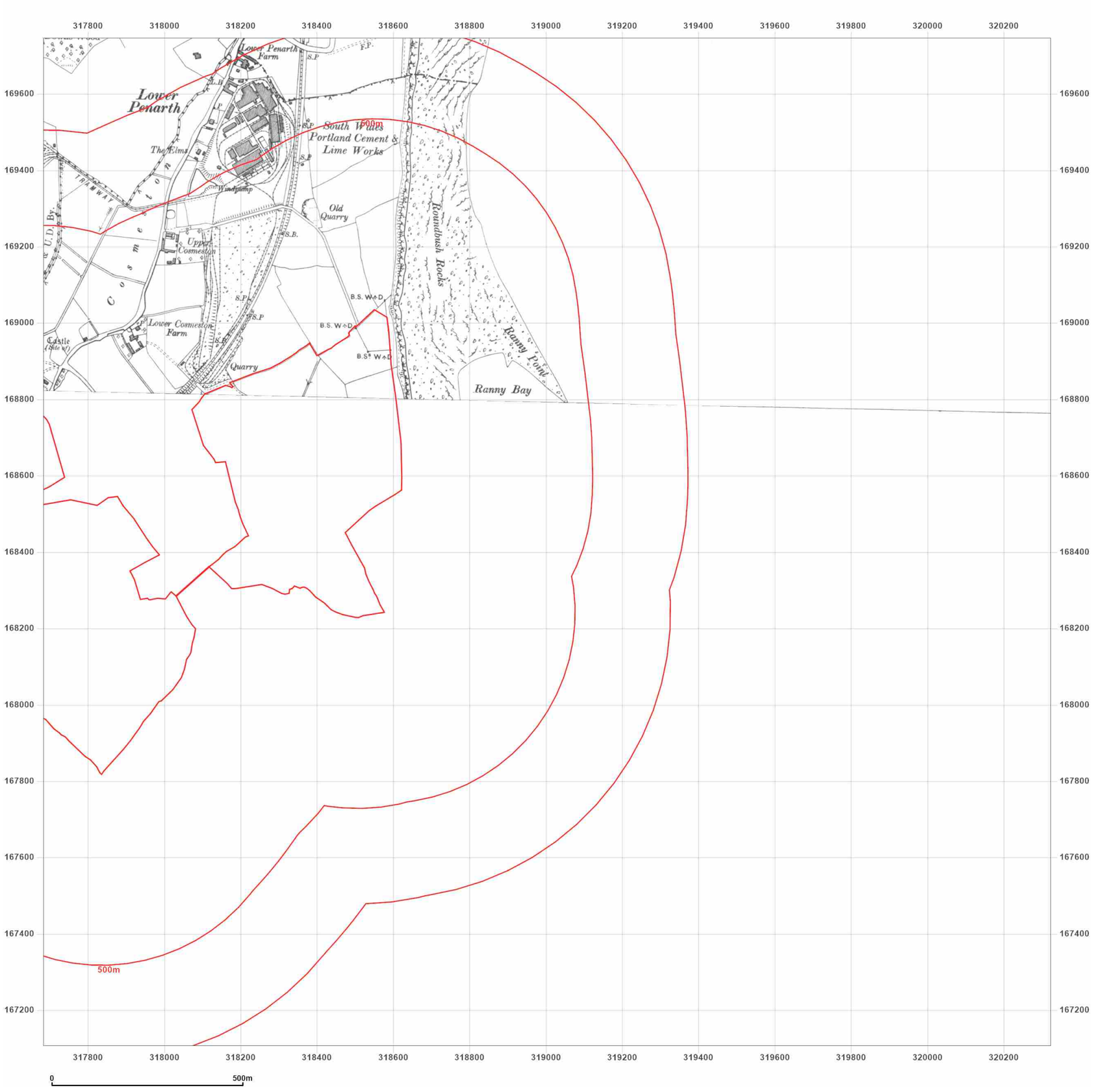
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Site Details:

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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

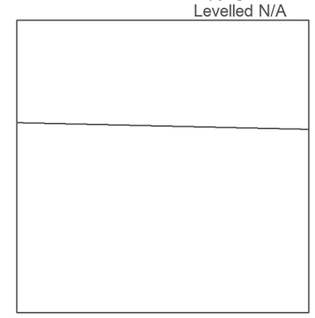
Map date: **1915**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1877
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A



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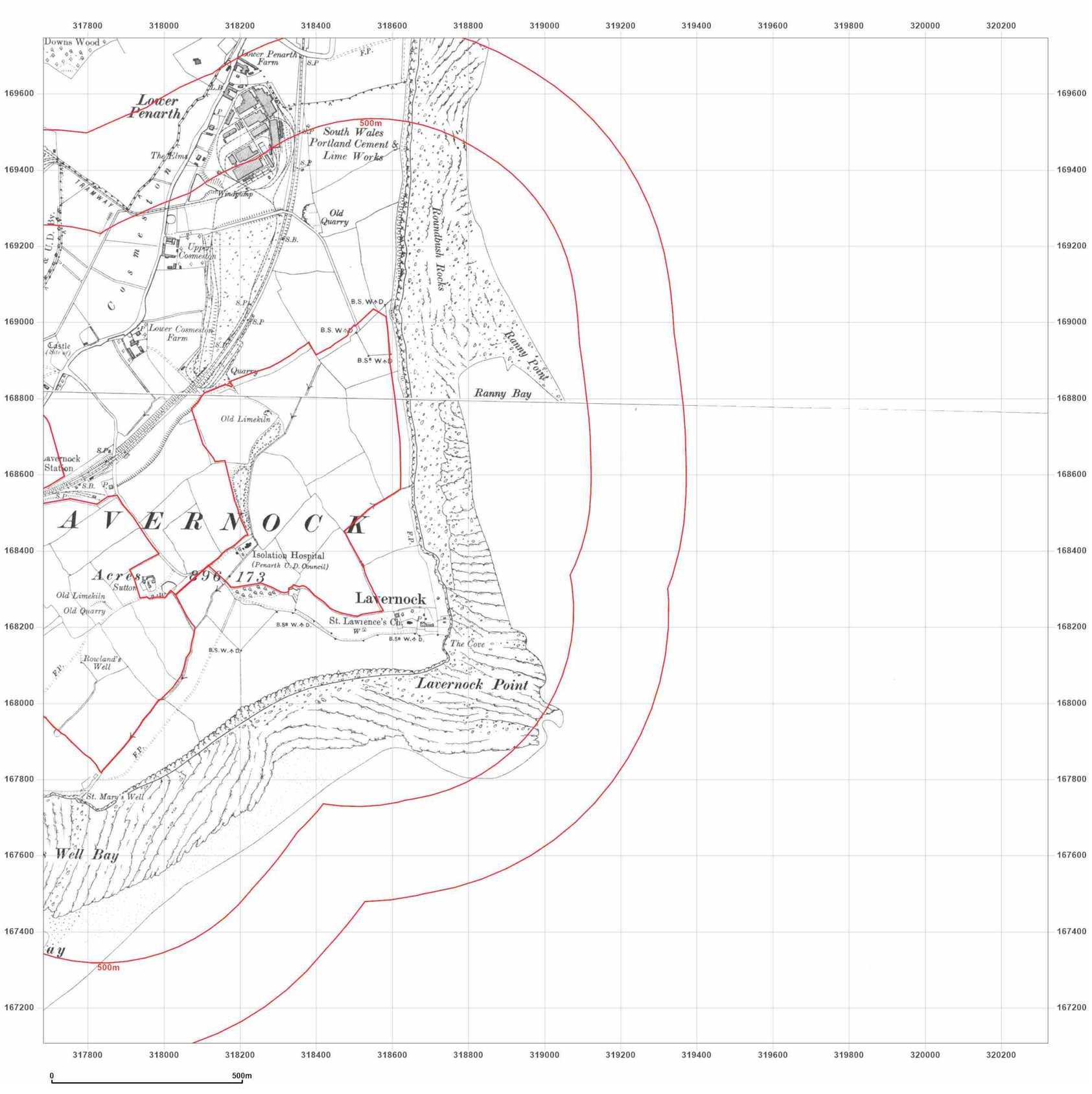
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

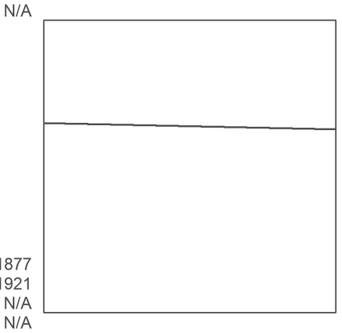
Map date: **1921-1922**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1878
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1877
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A

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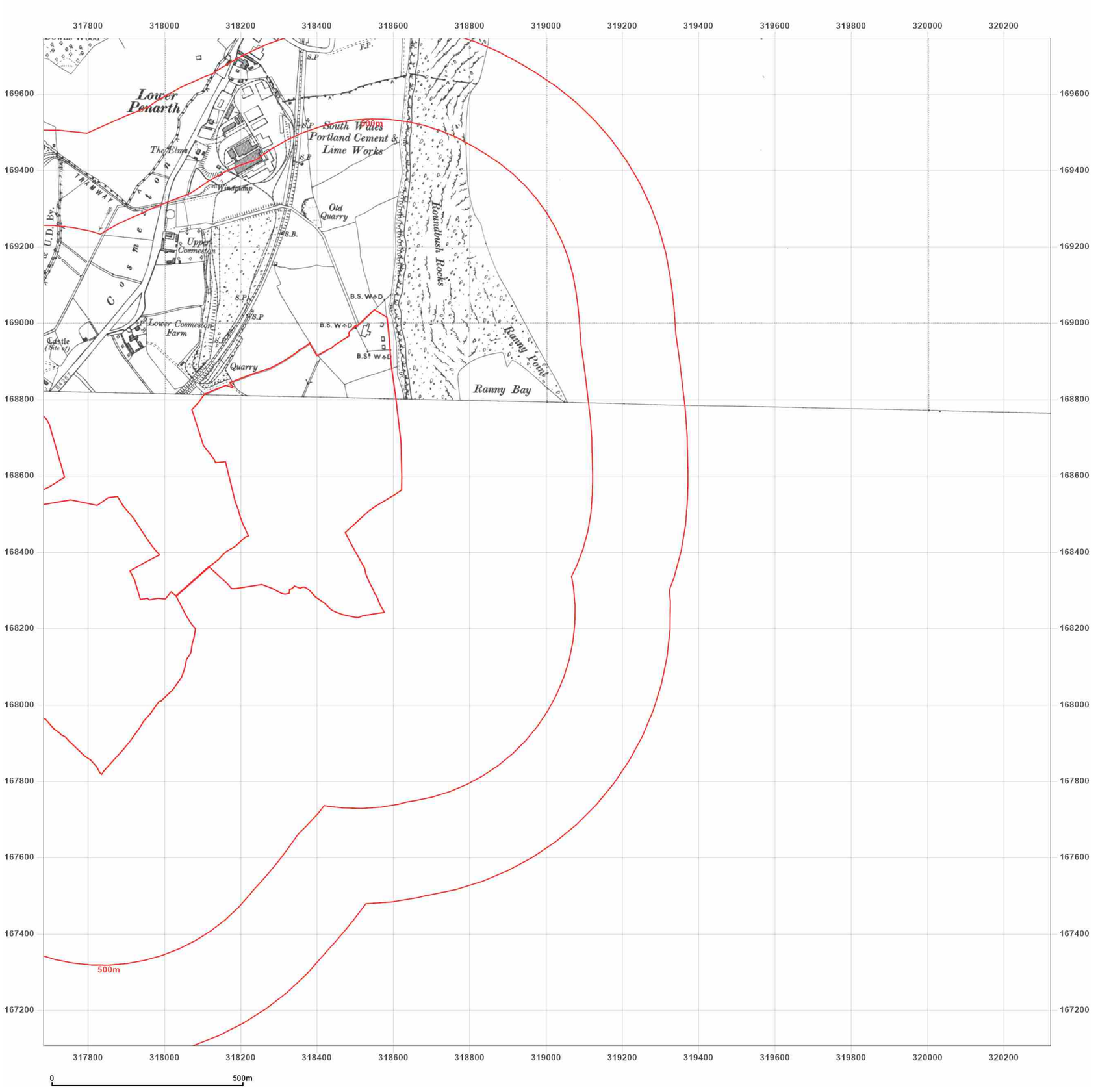
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

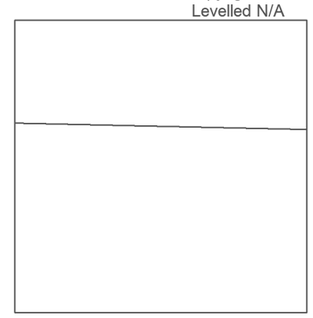
Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1877
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A



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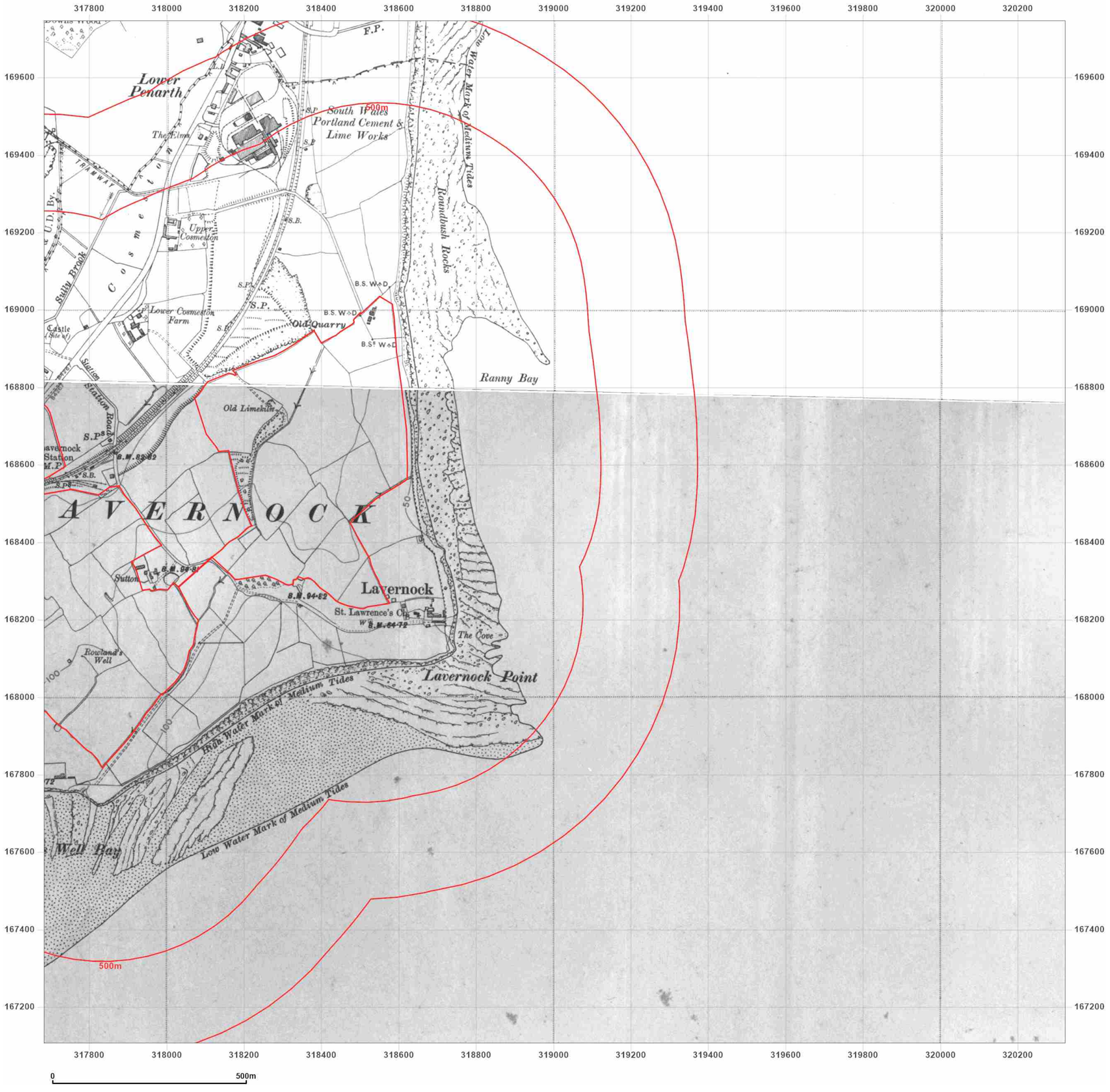
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: County Series

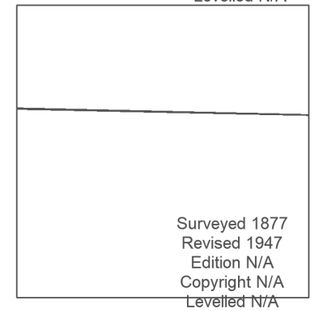
Map date: **1947**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1877
Revised 1947
Edition N/A
Copyright N/A
Levelled N/A



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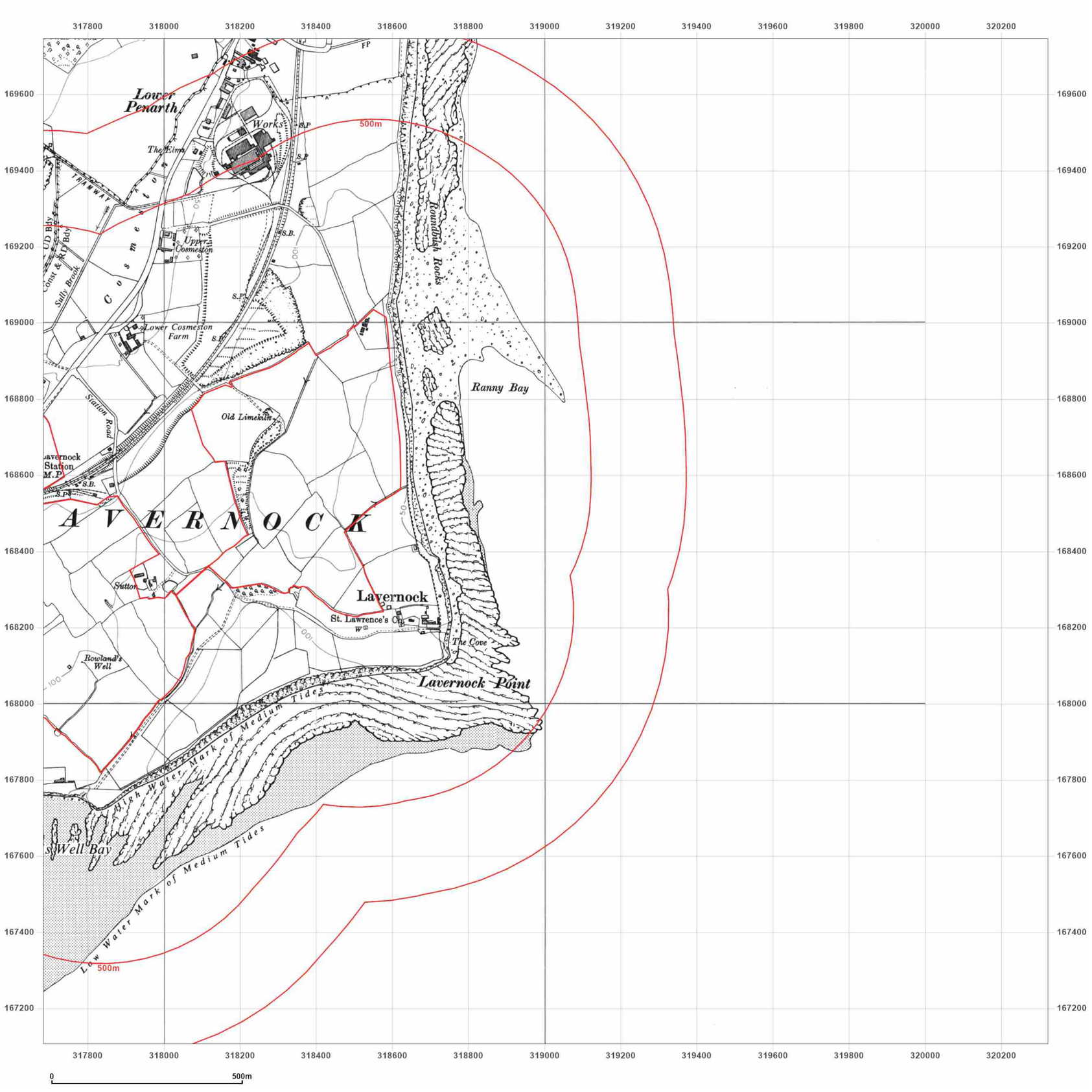
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: Provisional

Map date: **1964**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed N/A
Revised 1964
Edition N/A
Copyright 1964
Levelled N/A

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Site Details:

Combined areas

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Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: National Grid

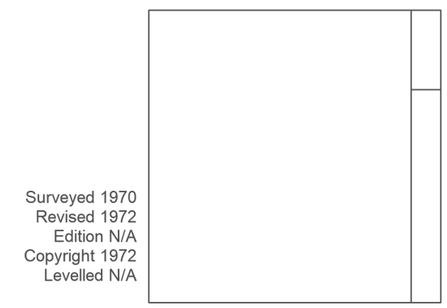
Map date: **1970-1972**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1970
Revised 1970
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1970
Revised 1972
Edition N/A
Copyright 1972
Levelled N/A

Groundsure INSIGHTS

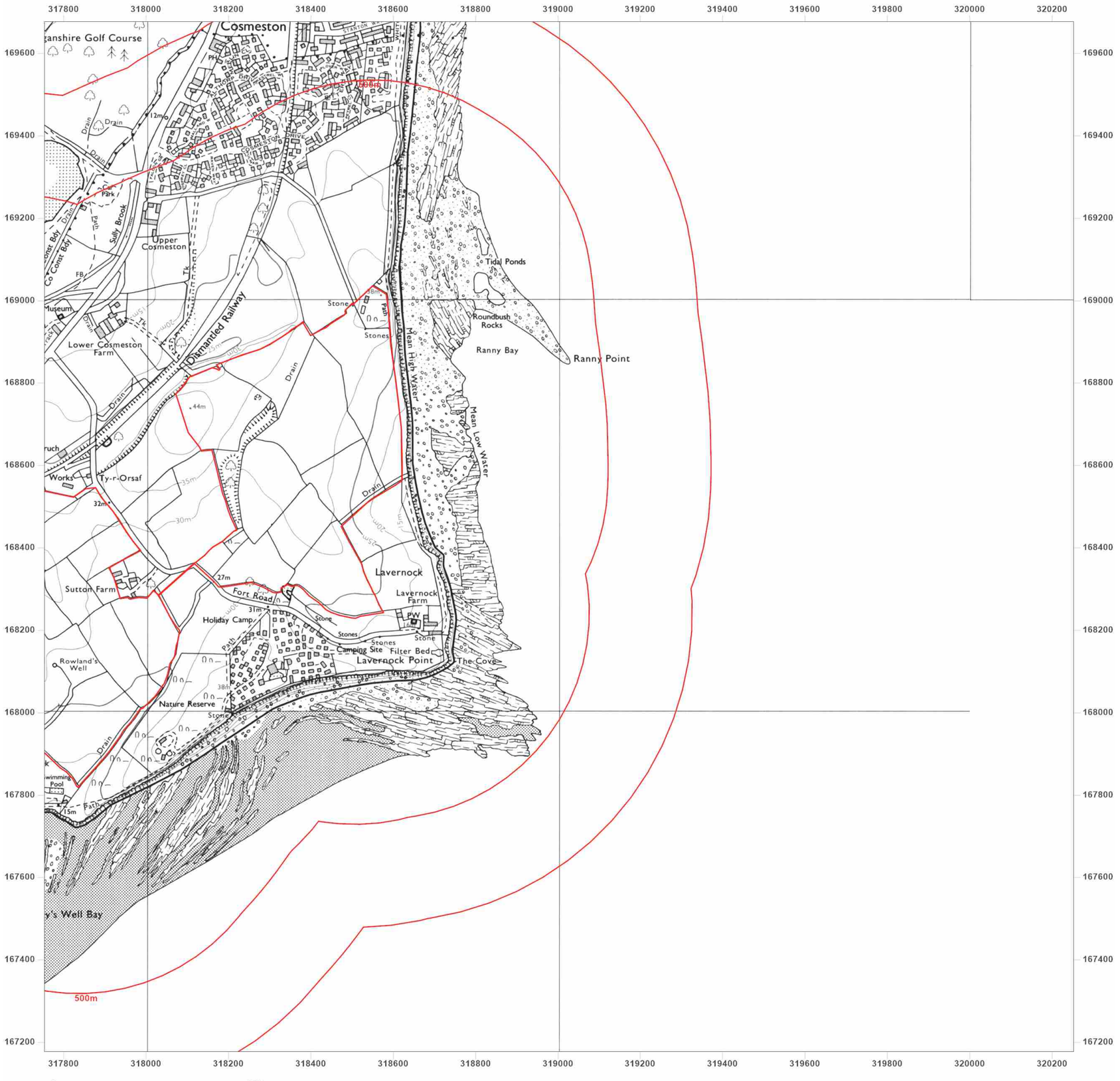
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1967
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1986
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

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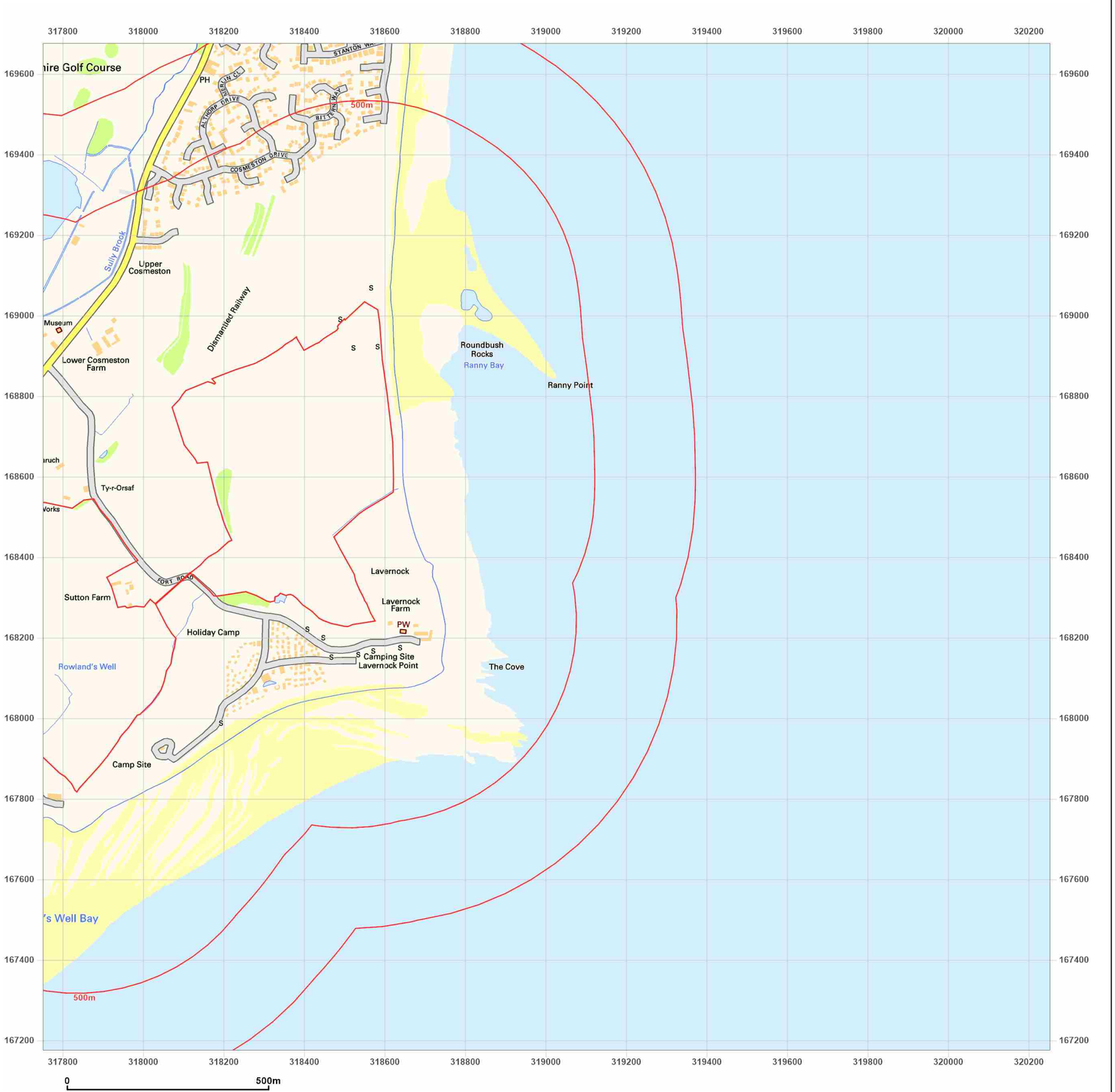
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

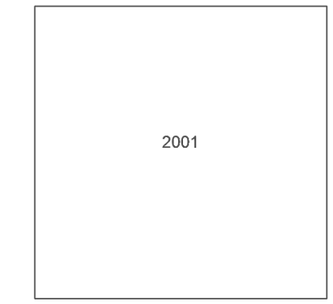
Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
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Groundsure INSIGHTS

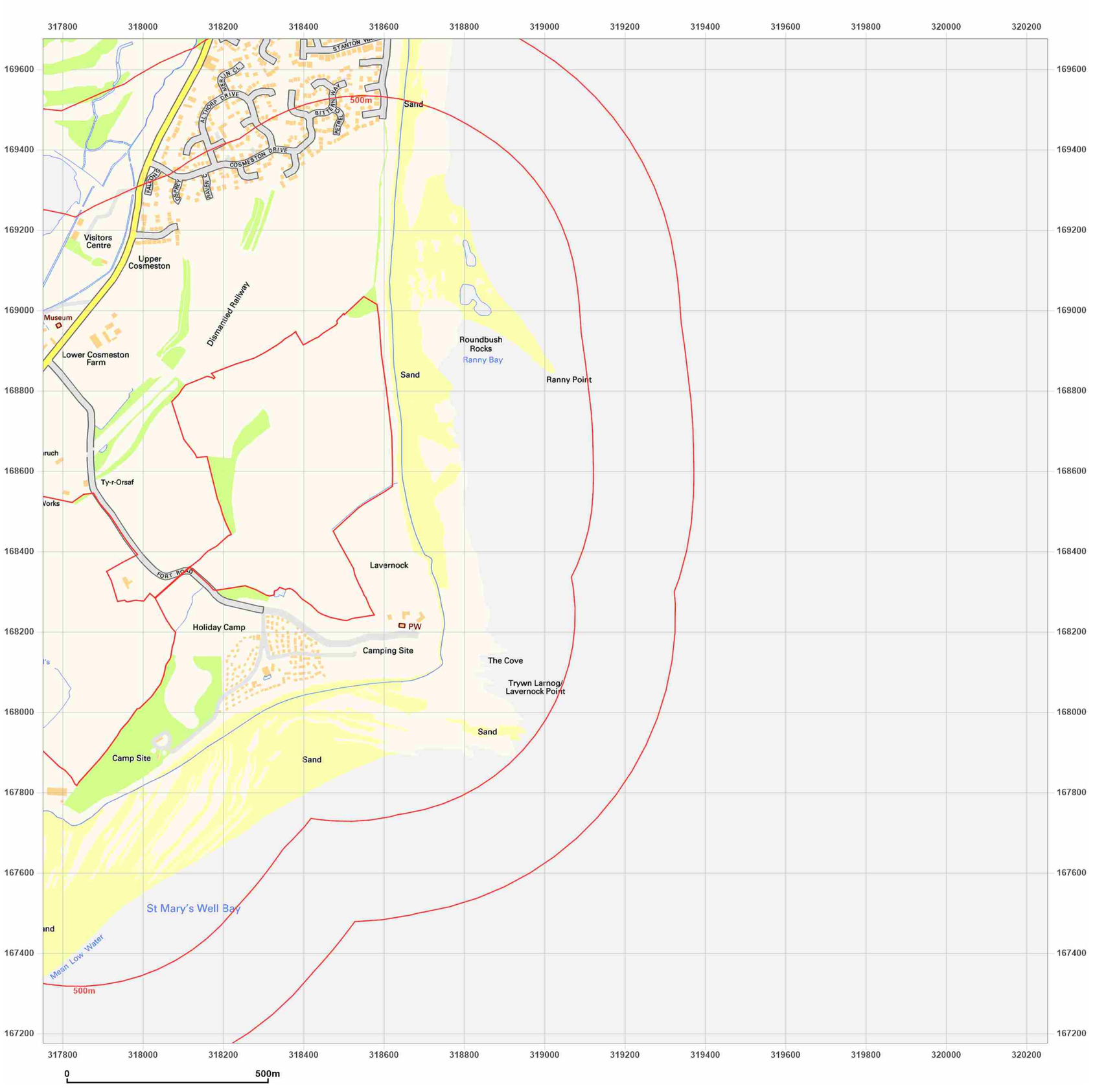
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2010

Groundsure INSIGHTS

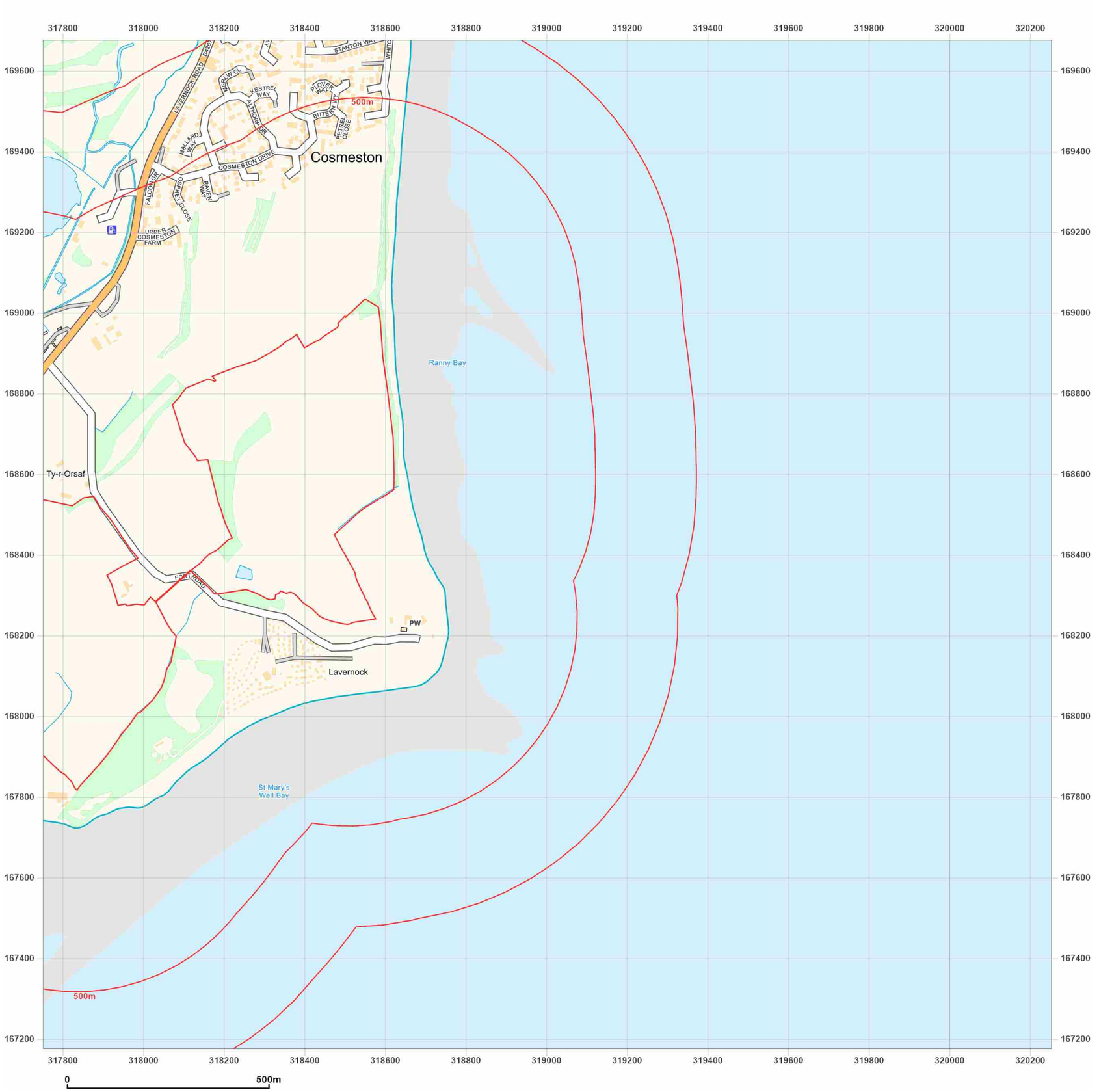
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_SS_2_1
Grid Ref: 319002, 168426

Map Name: National Grid

Map date: **2025**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2025

Groundsure INSIGHTS

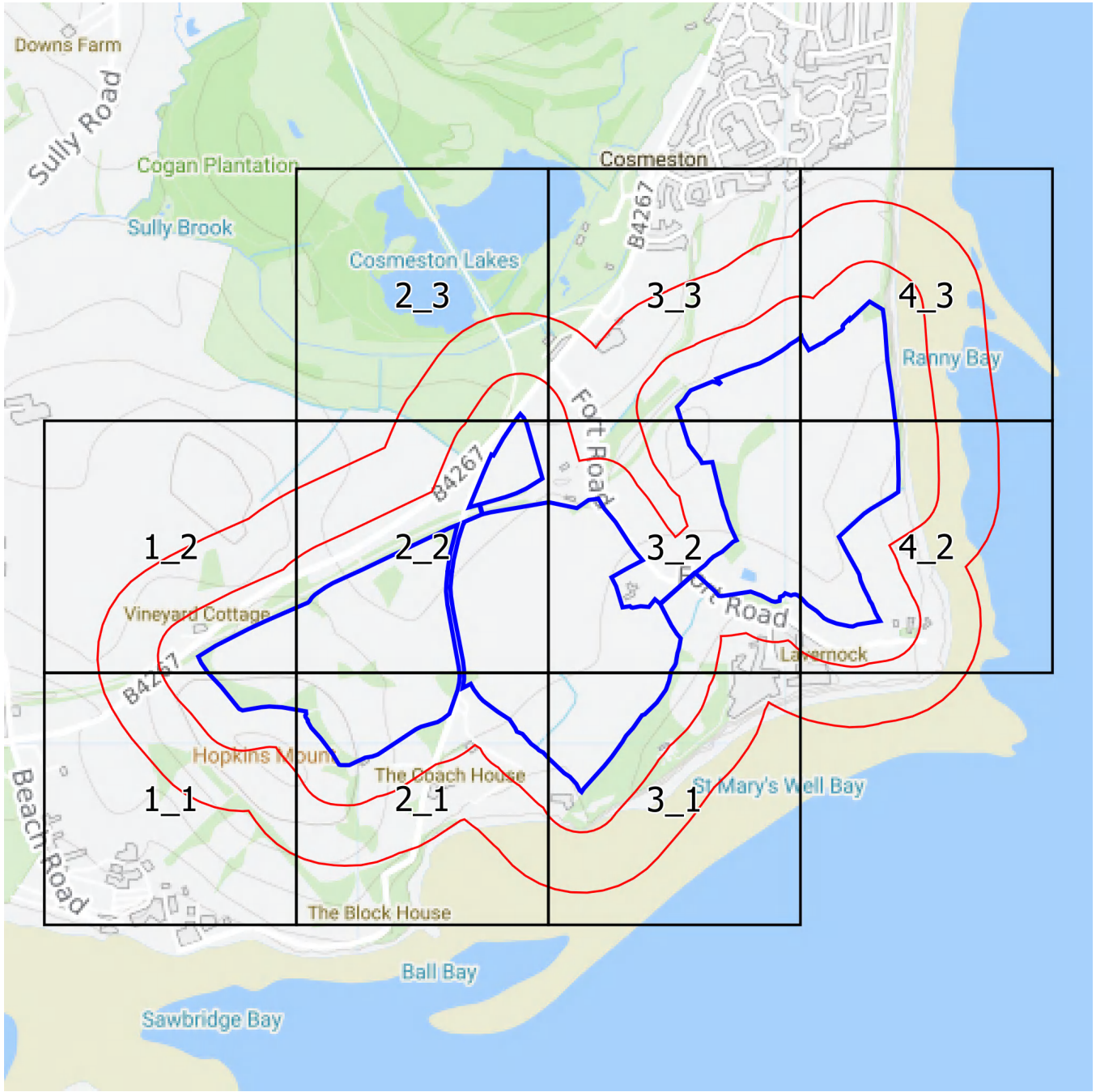
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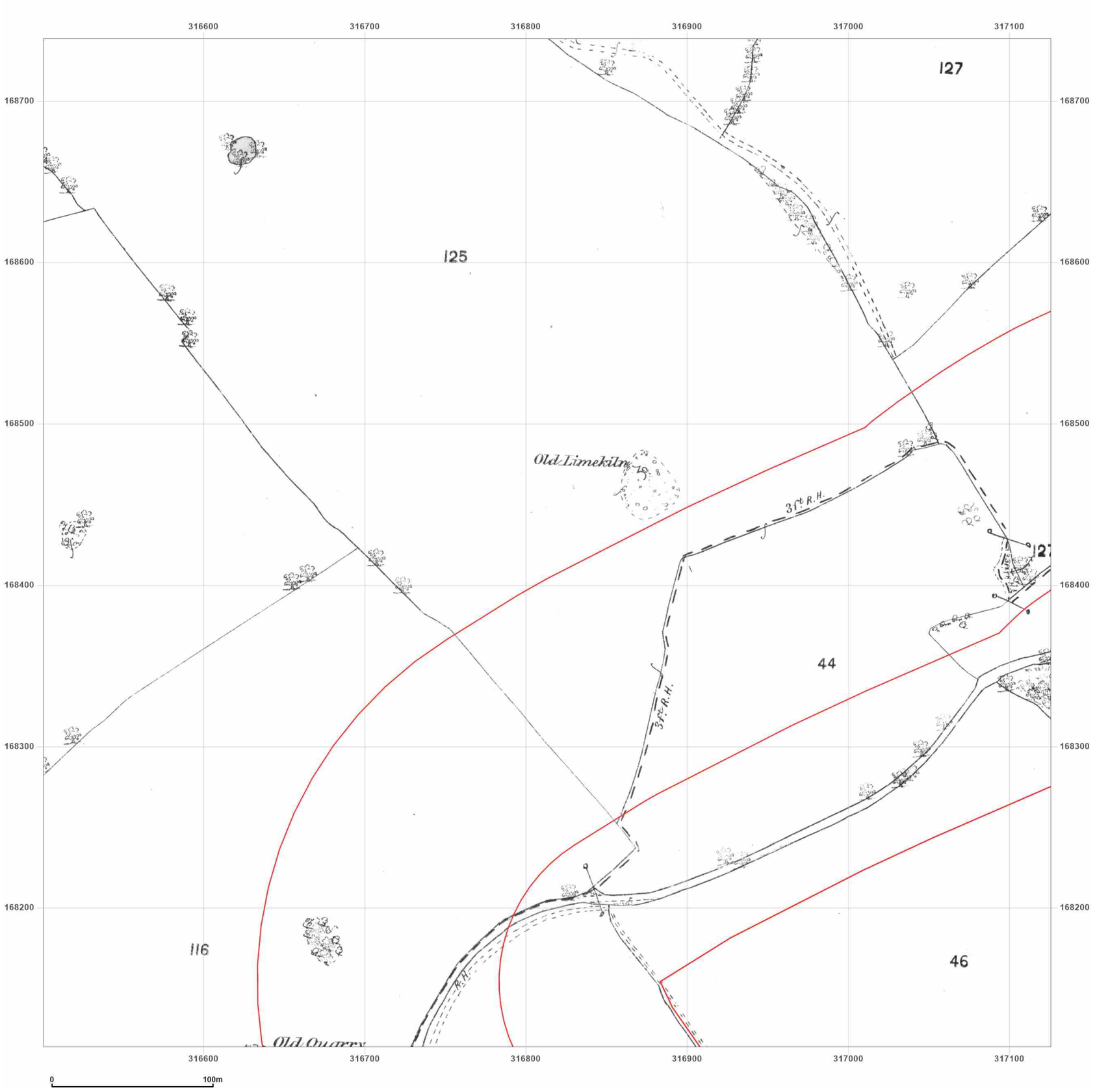
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Groundsure INSIGHTS

1:2,500 Scale Grid Index

N
W
E
S



Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: County Series

Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

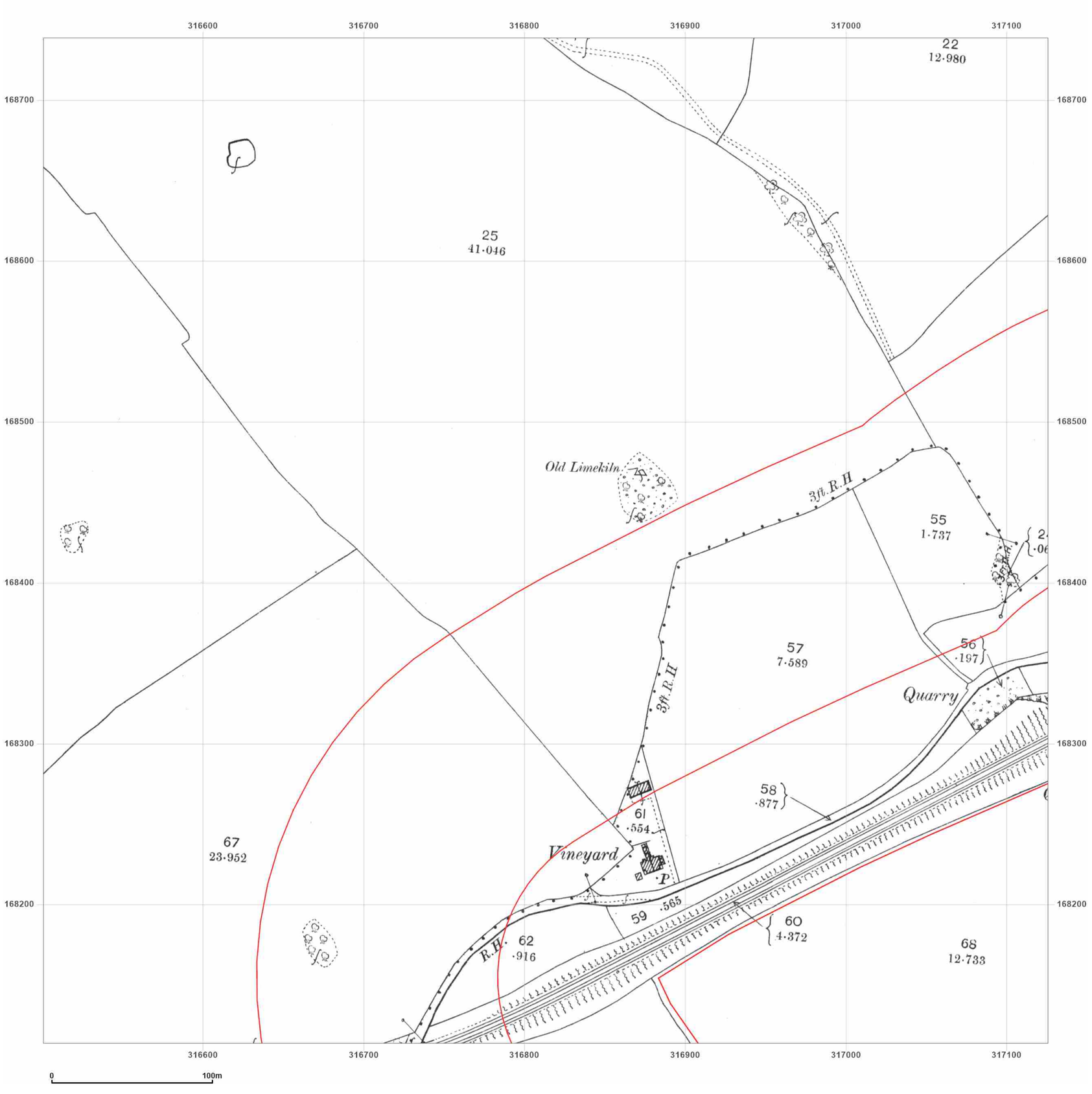
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: County Series

Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

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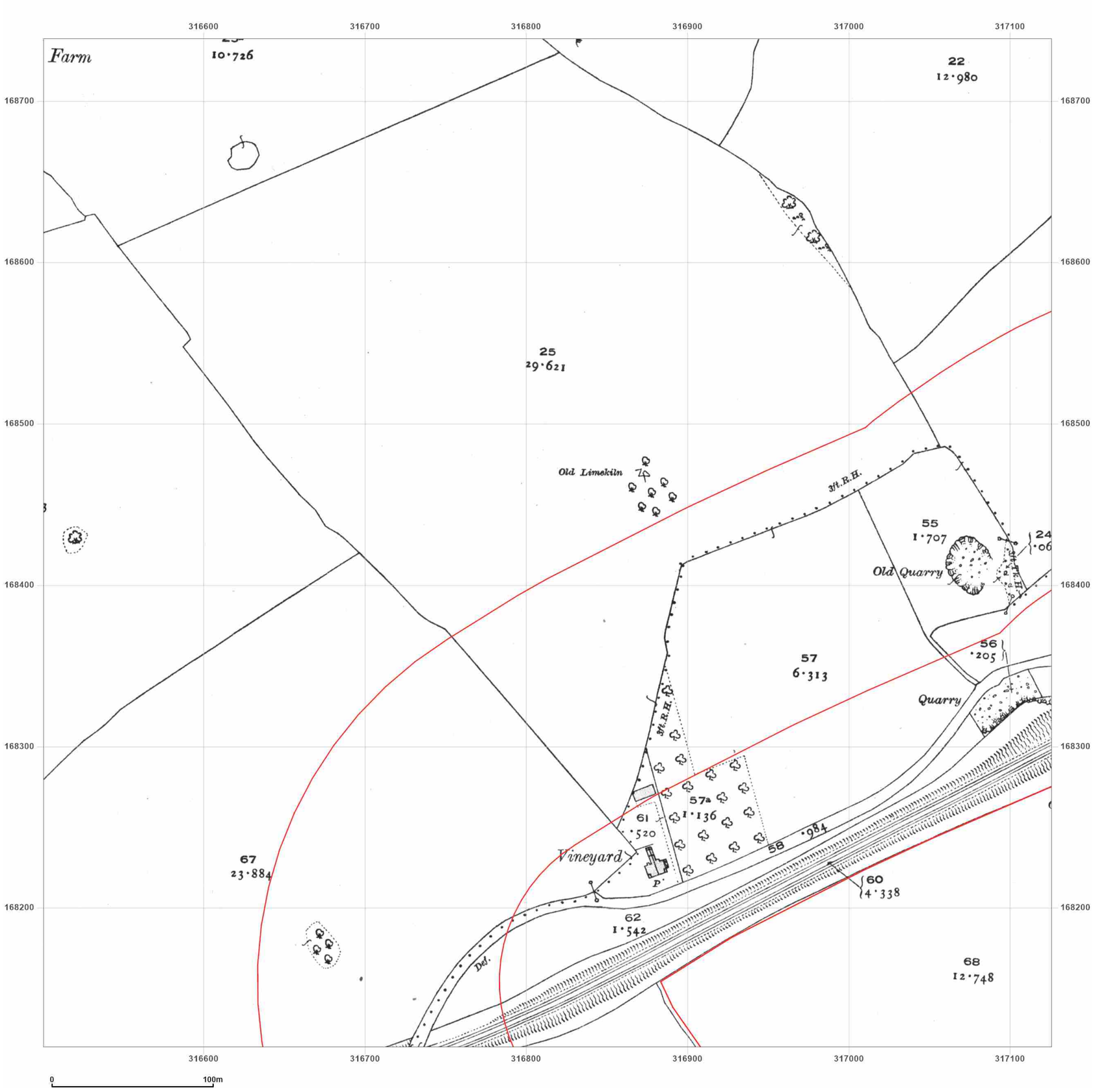
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Site Details:

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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: County Series

Map date: **1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: County Series

Map date: **1943**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1943
Revised 1943
Edition N/A
Copyright N/A
Levelled N/A

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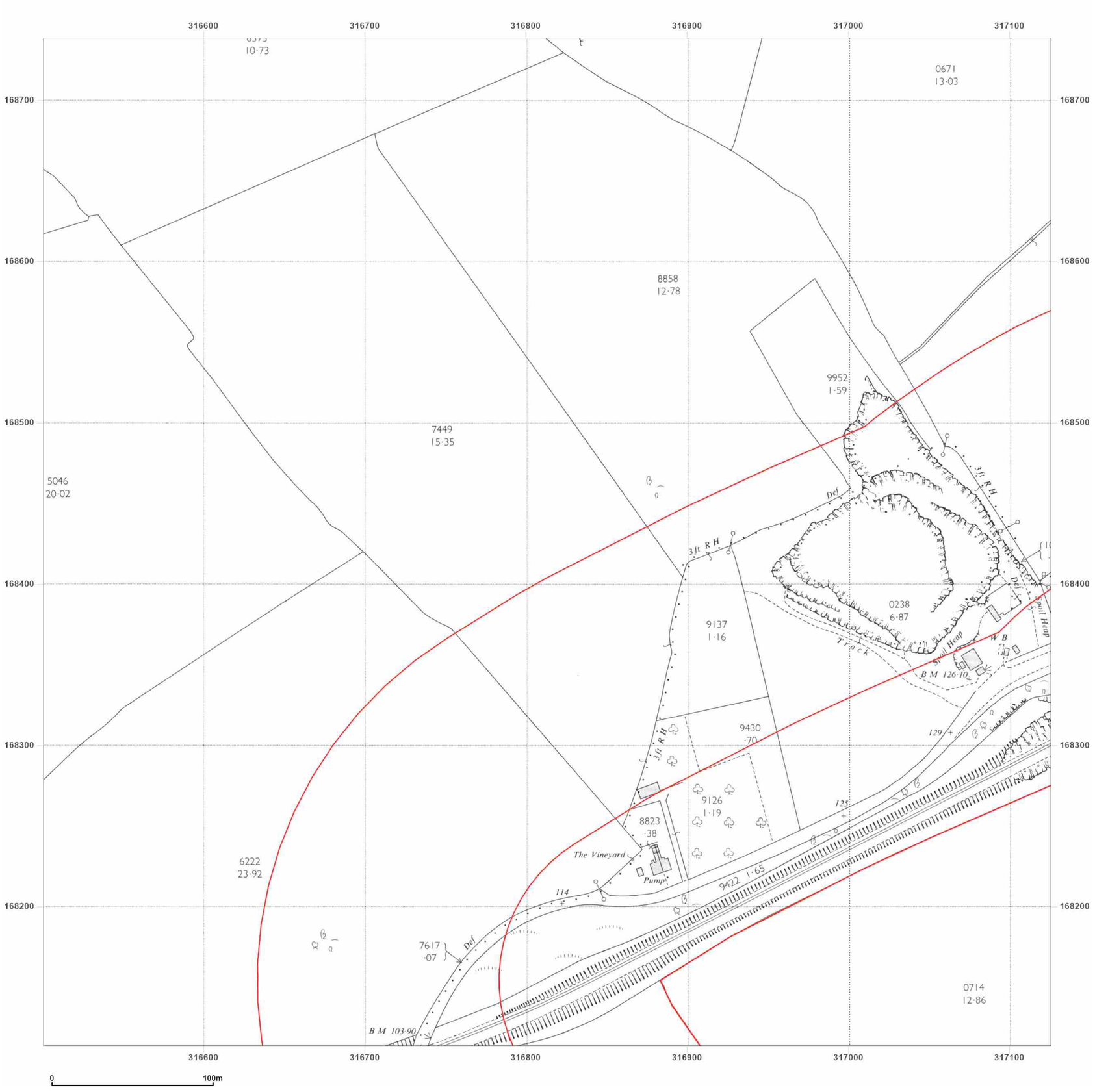
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: National Grid

Map date: **1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1969
Revised 1969
Edition N/A
Copyright 1970
Levelled 1961

Groundsure INSIGHTS

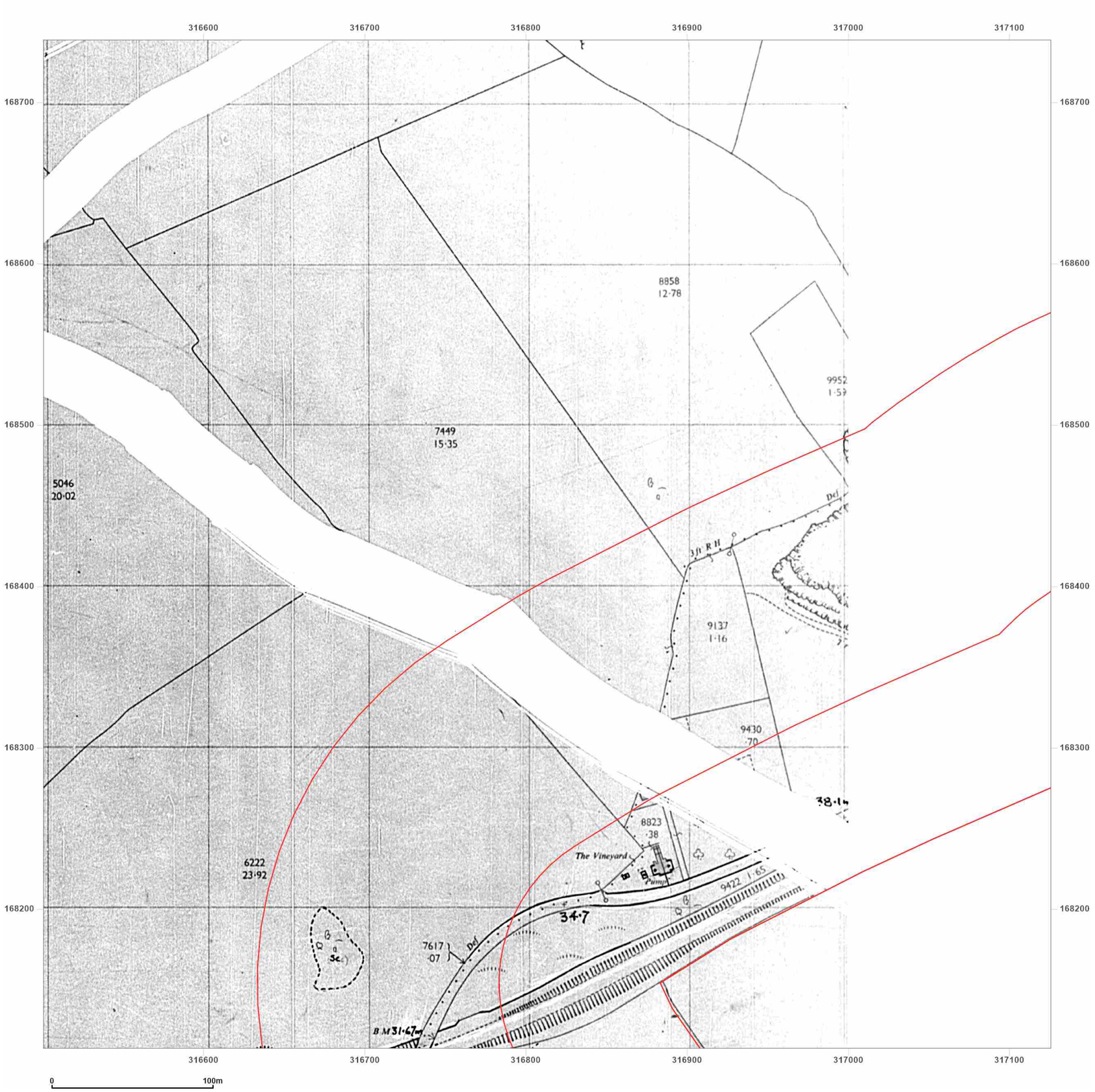
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Site Details:

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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: National Grid

Map date: **1978**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A

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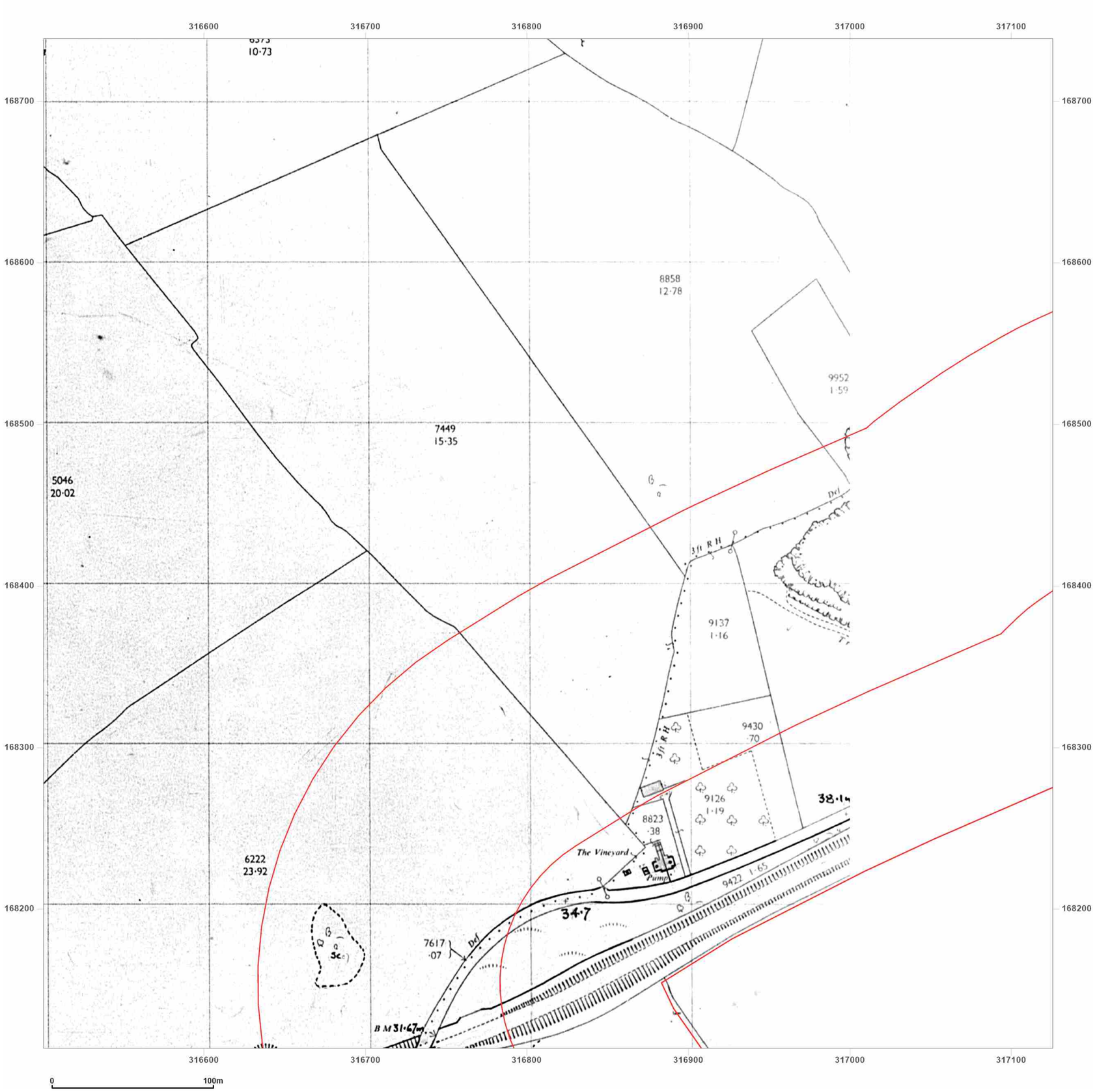
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: National Grid

Map date: **1979**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1979
Revised 1979
Edition N/A
Copyright 1979
Levelled N/A

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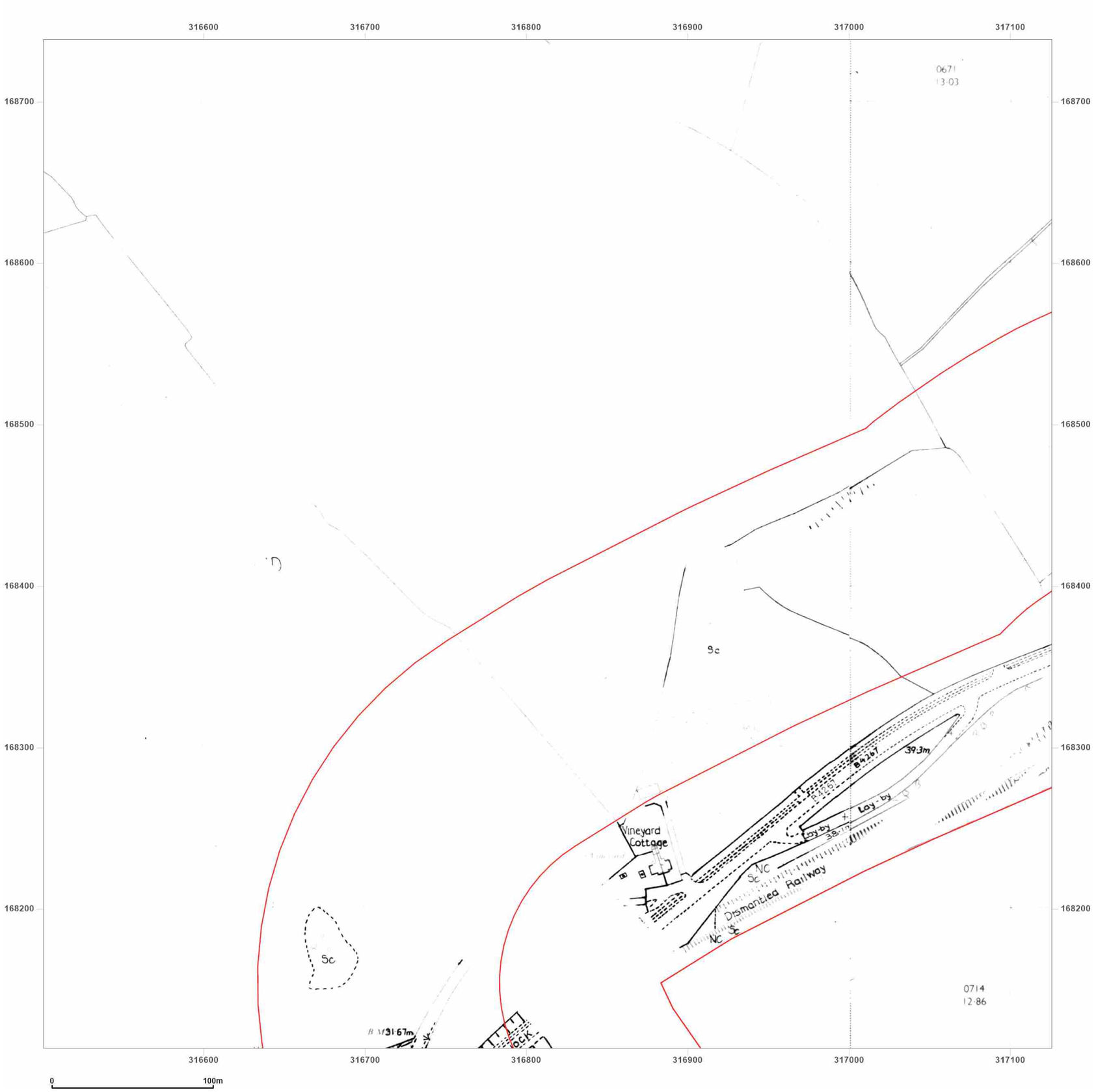
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Production date: 25 June 2025

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Site Details:

Combined areas

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Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

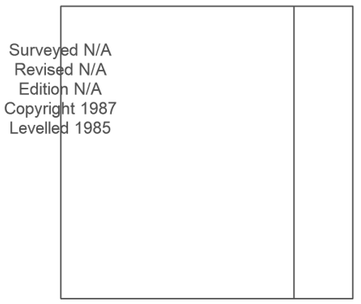
Map Name: National Grid

Map date: **1987-1988**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Groundsure INSIGHTS

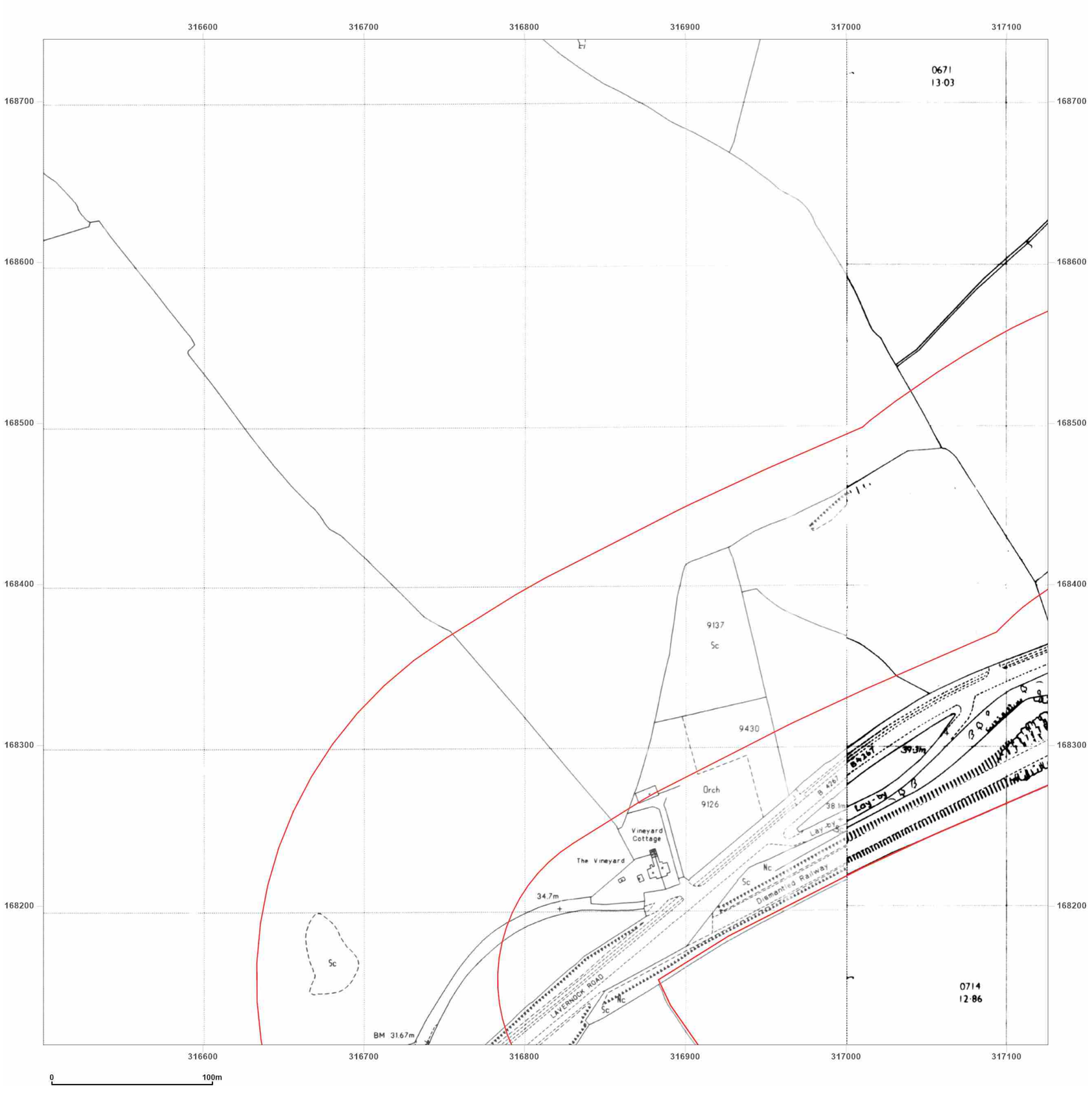
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_1_2
Grid Ref: 316813, 168426

Map Name: National Grid

Map date: **1988-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1988
Edition N/A
Copyright 1988
Levelled 1985

Groundsure INSIGHTS

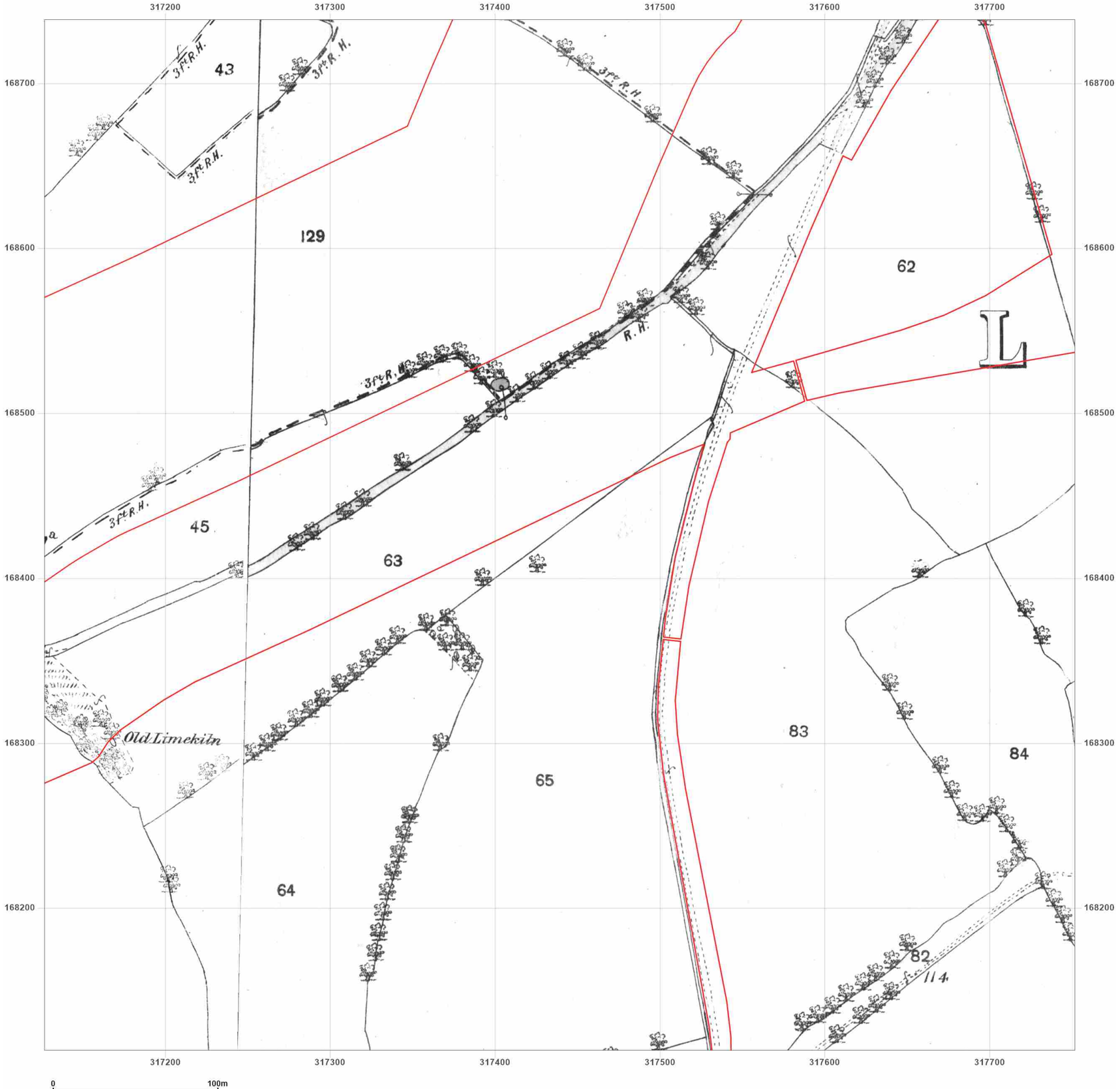
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

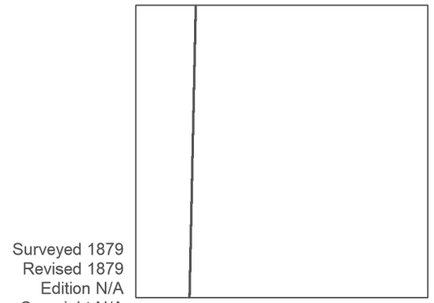
Map Name: County Series

Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

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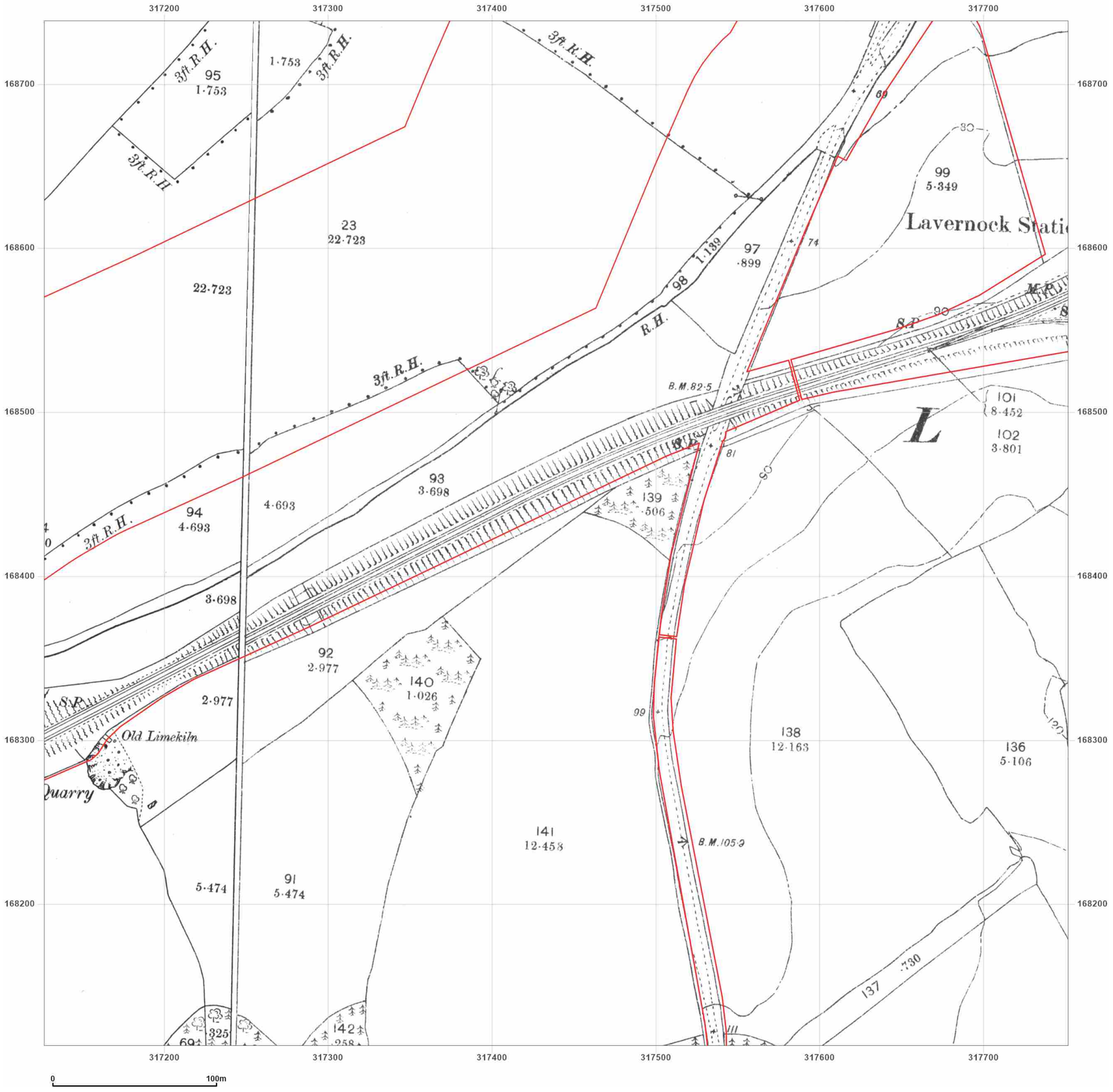
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Site Details:

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Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

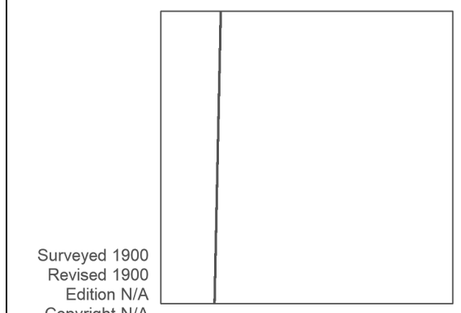
Map Name: County Series

Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

N
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Groundsure INSIGHTS

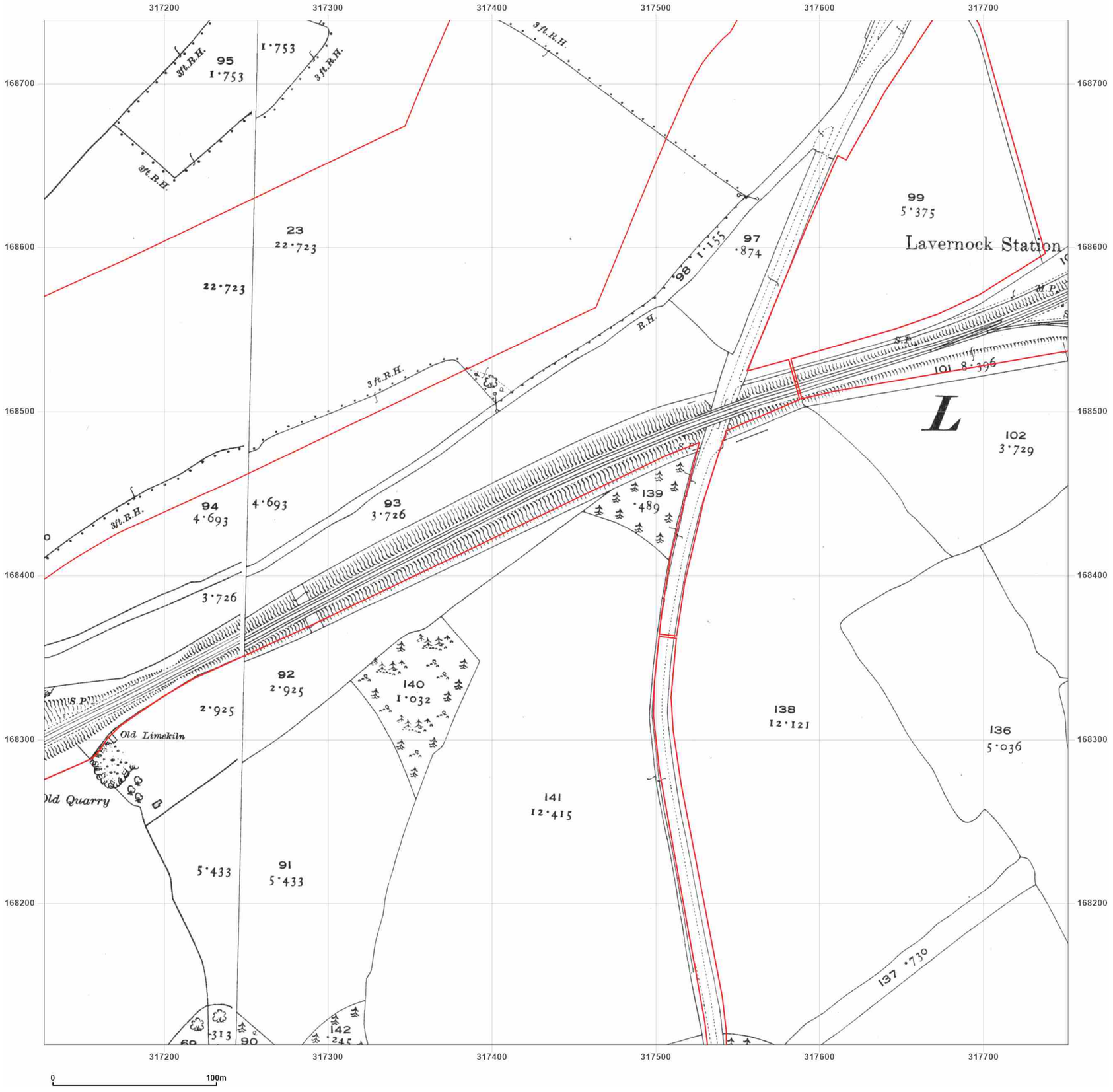
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

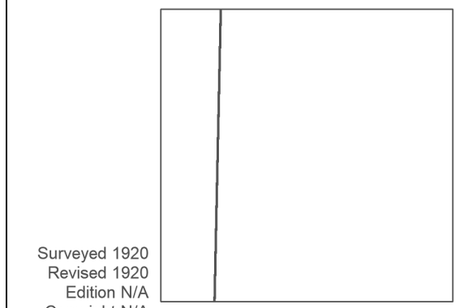
Map Name: County Series

Map date: **1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure INSIGHTS

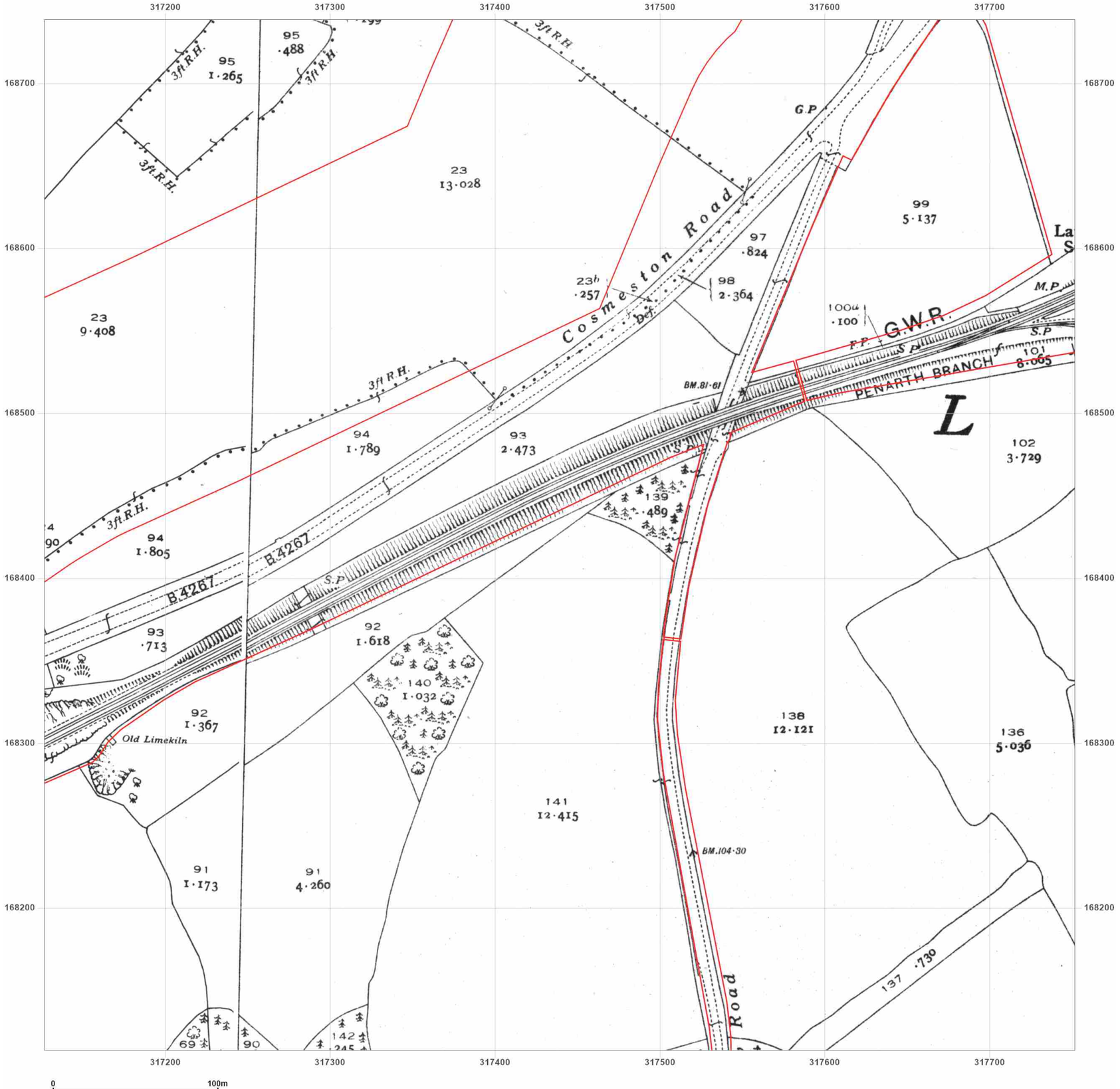
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WSP

Site Details:

Combined areas

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Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

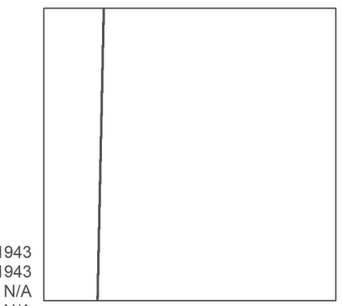
Map Name: County Series

Map date: **1940-1943**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Surveyed 1943
Revised 1943
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

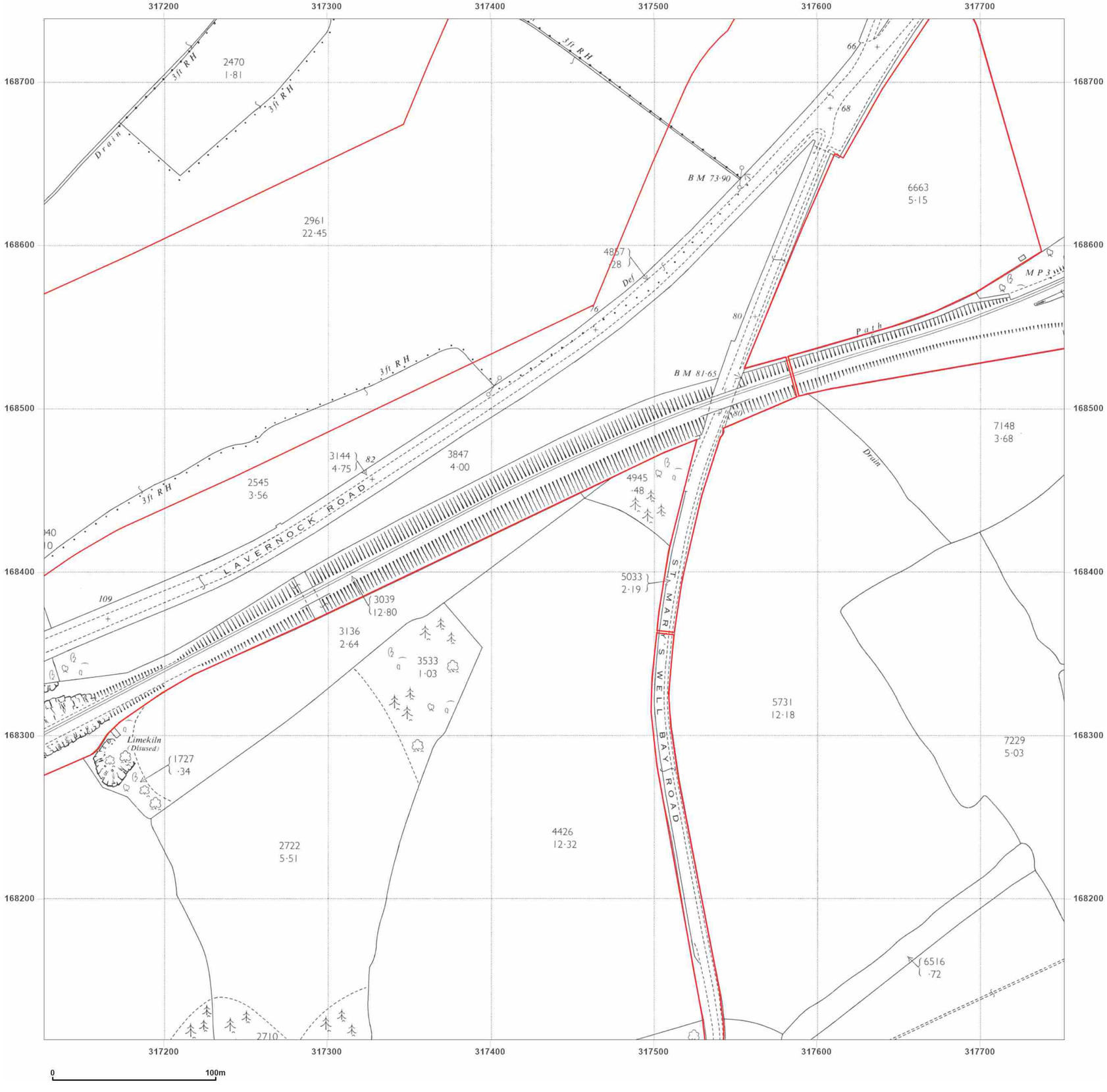
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

Map Name: National Grid

Map date: **1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1969
Revised 1969
Edition N/A
Copyright 1970
Levelled 1961

Groundsure INSIGHTS

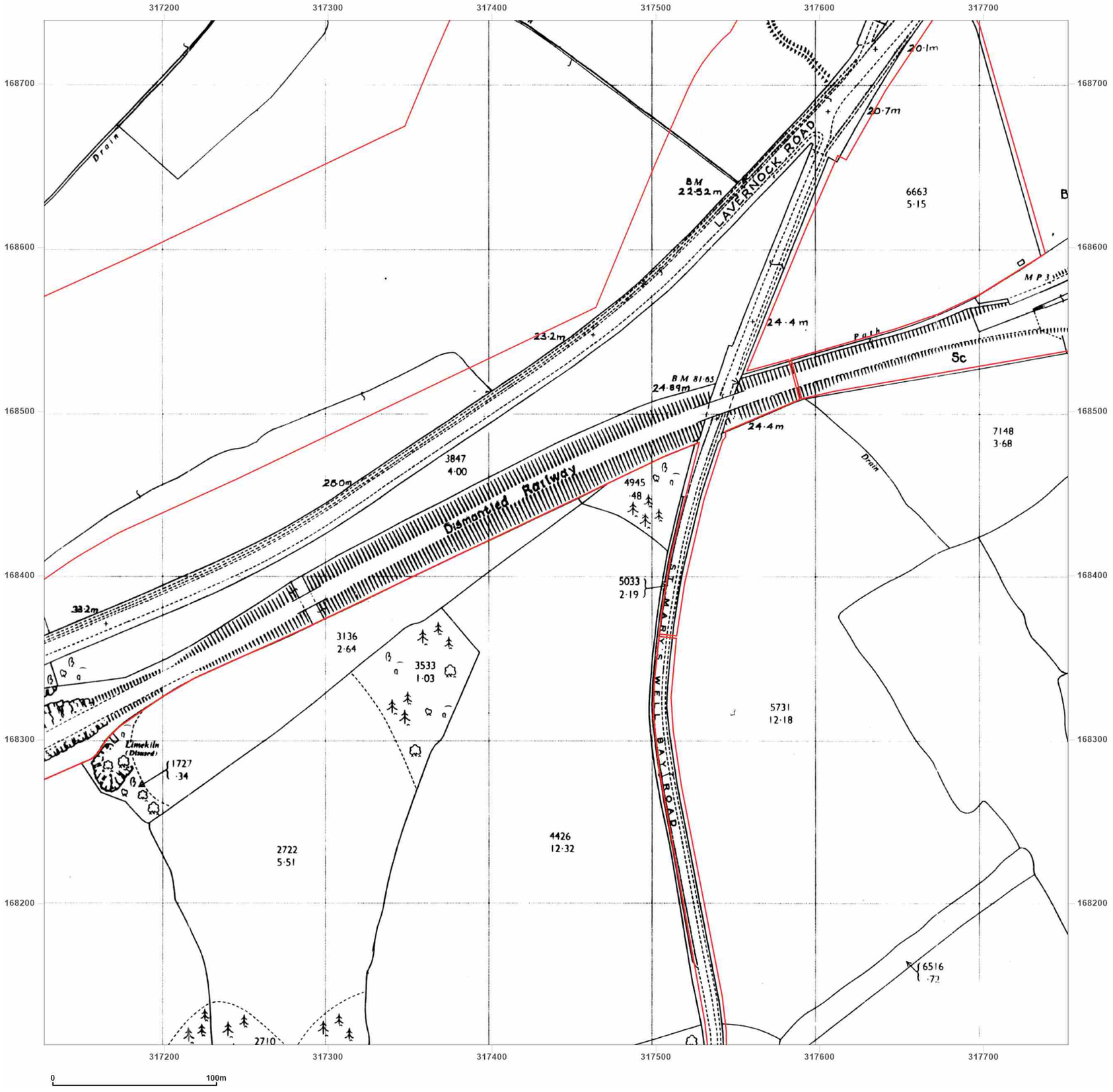
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

Map Name: National Grid

Map date: **1988**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1985
Revised 1988
Edition N/A
Copyright 1988
Levelled 1985

Groundsure INSIGHTS

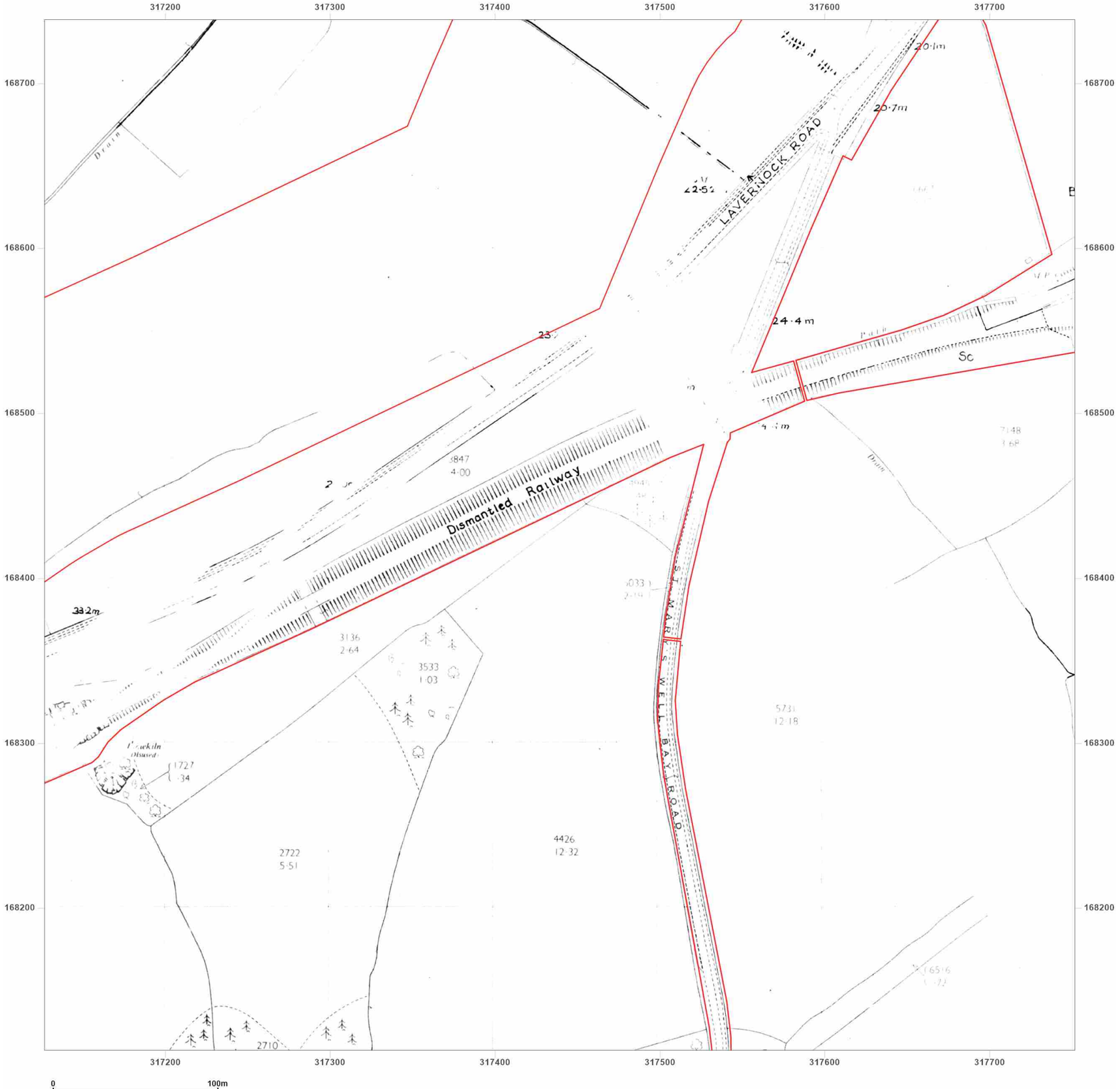
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

Map Name: National Grid

Map date: **1988**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1985
Revised 1988
Edition N/A
Copyright 1988
Levelled 1985

Groundsure INSIGHTS

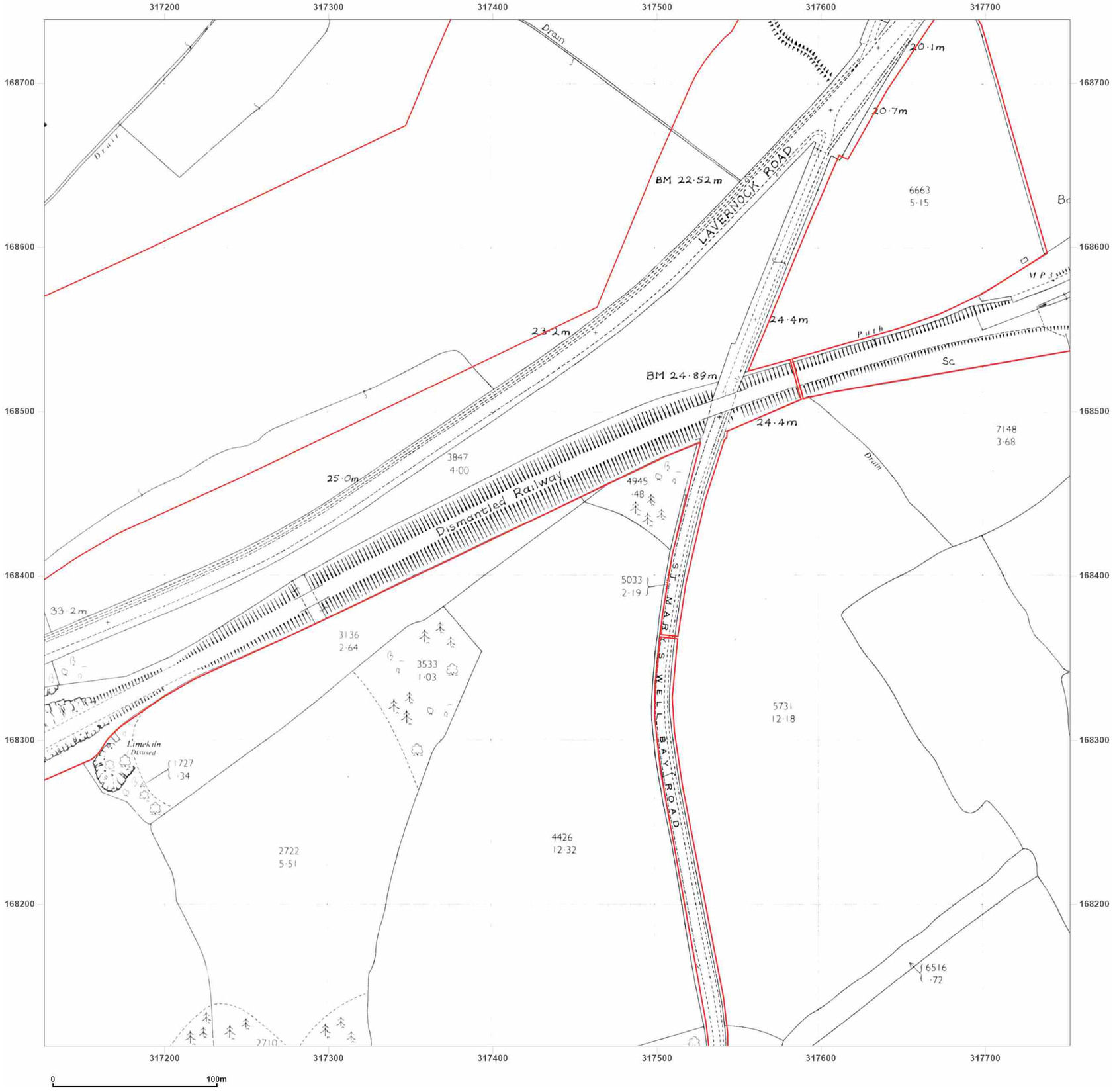
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

Map Name: National Grid

Map date: **1989**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1985
Revised 1989
Edition N/A
Copyright 1989
Levelled 1985

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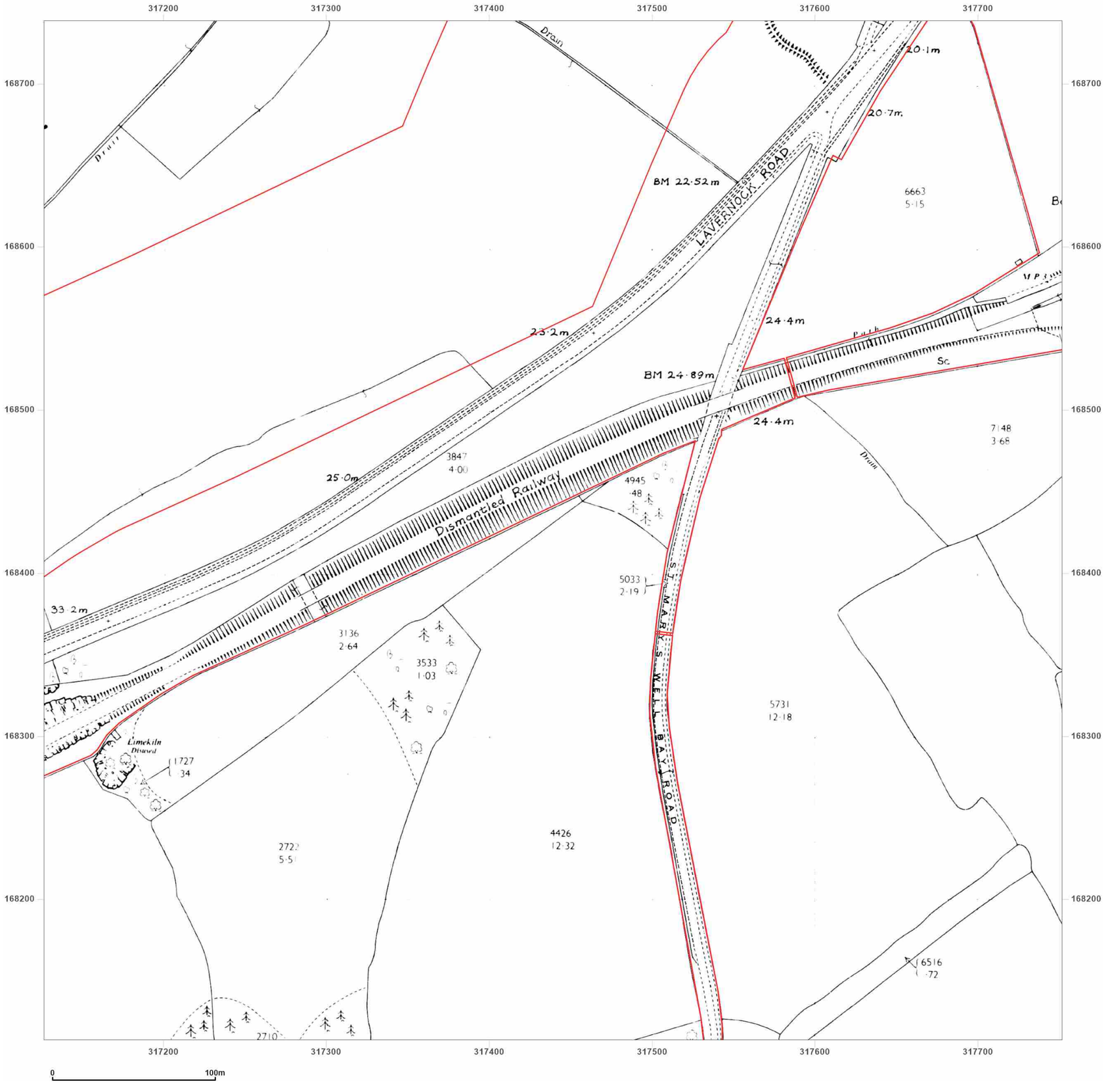
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

Map Name: National Grid

Map date: **1989**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

Groundsure INSIGHTS

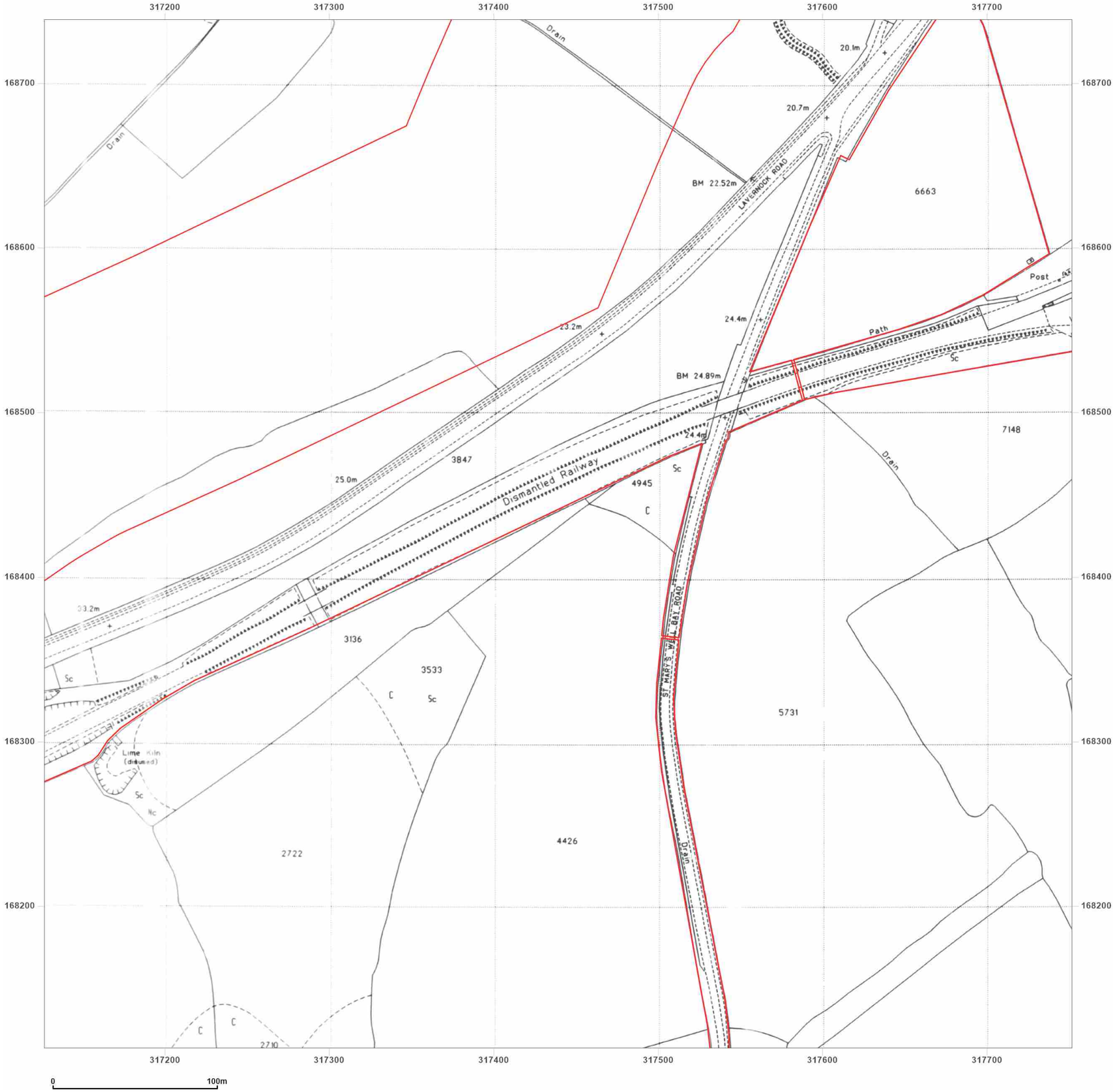
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_2
Grid Ref: 317439, 168426

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

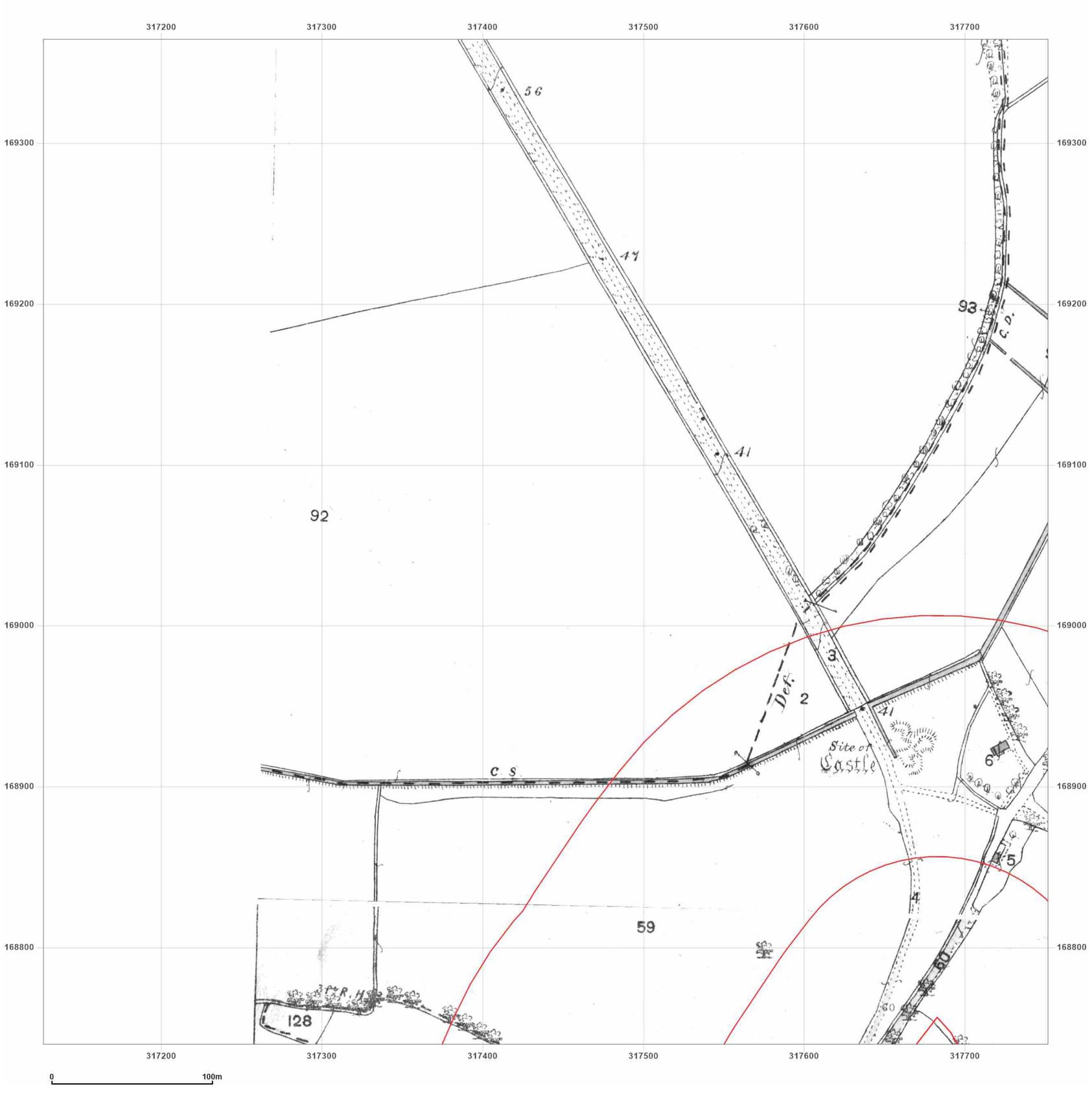
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

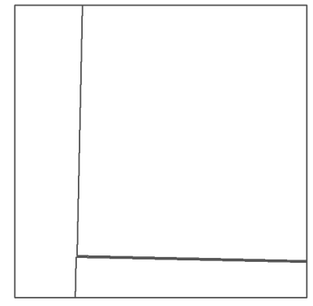
Map Name: County Series

Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

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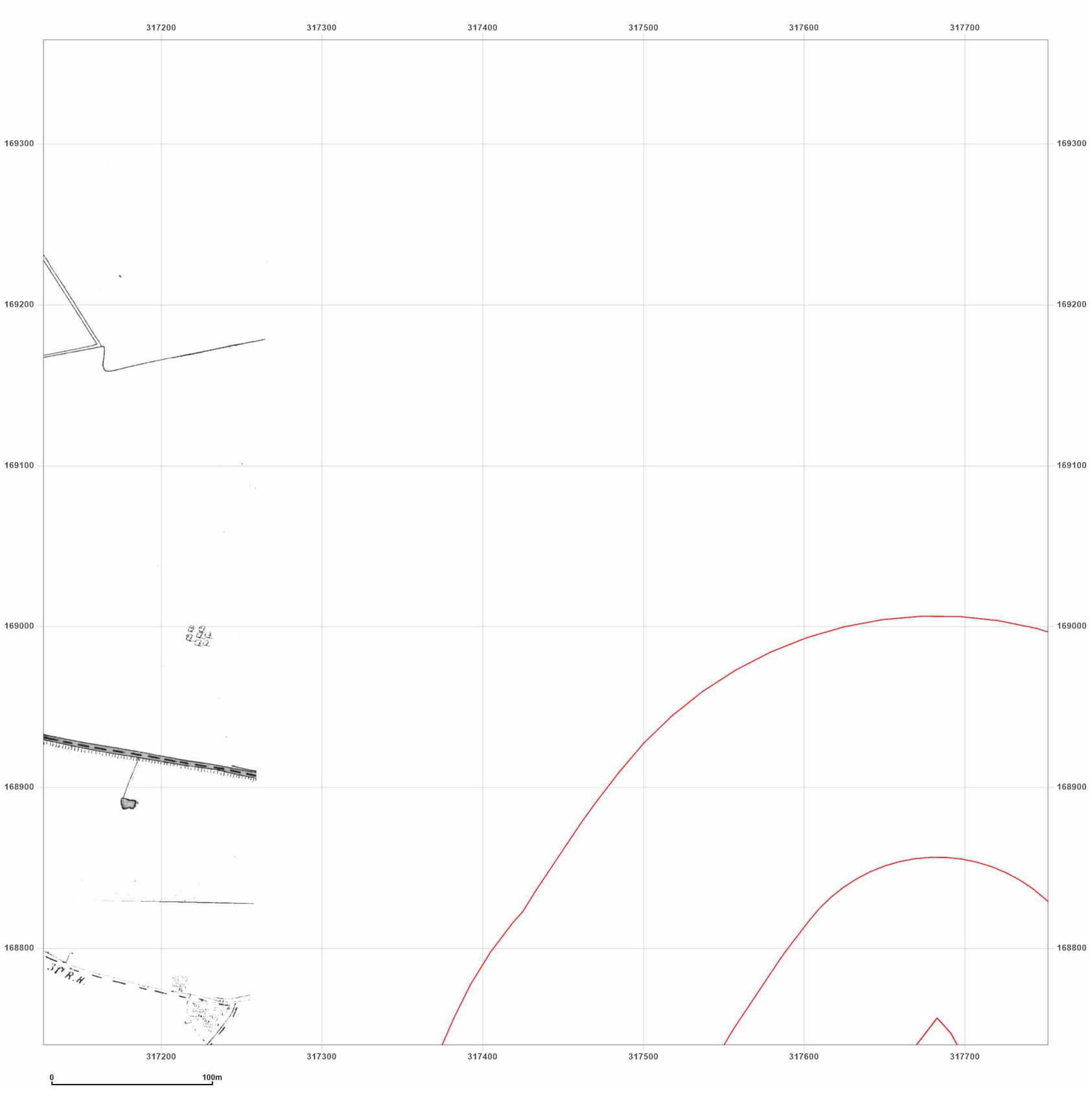
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: County Series

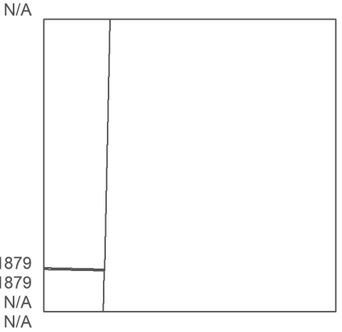
Map date: **1879-1880**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1880
Revised 1880
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

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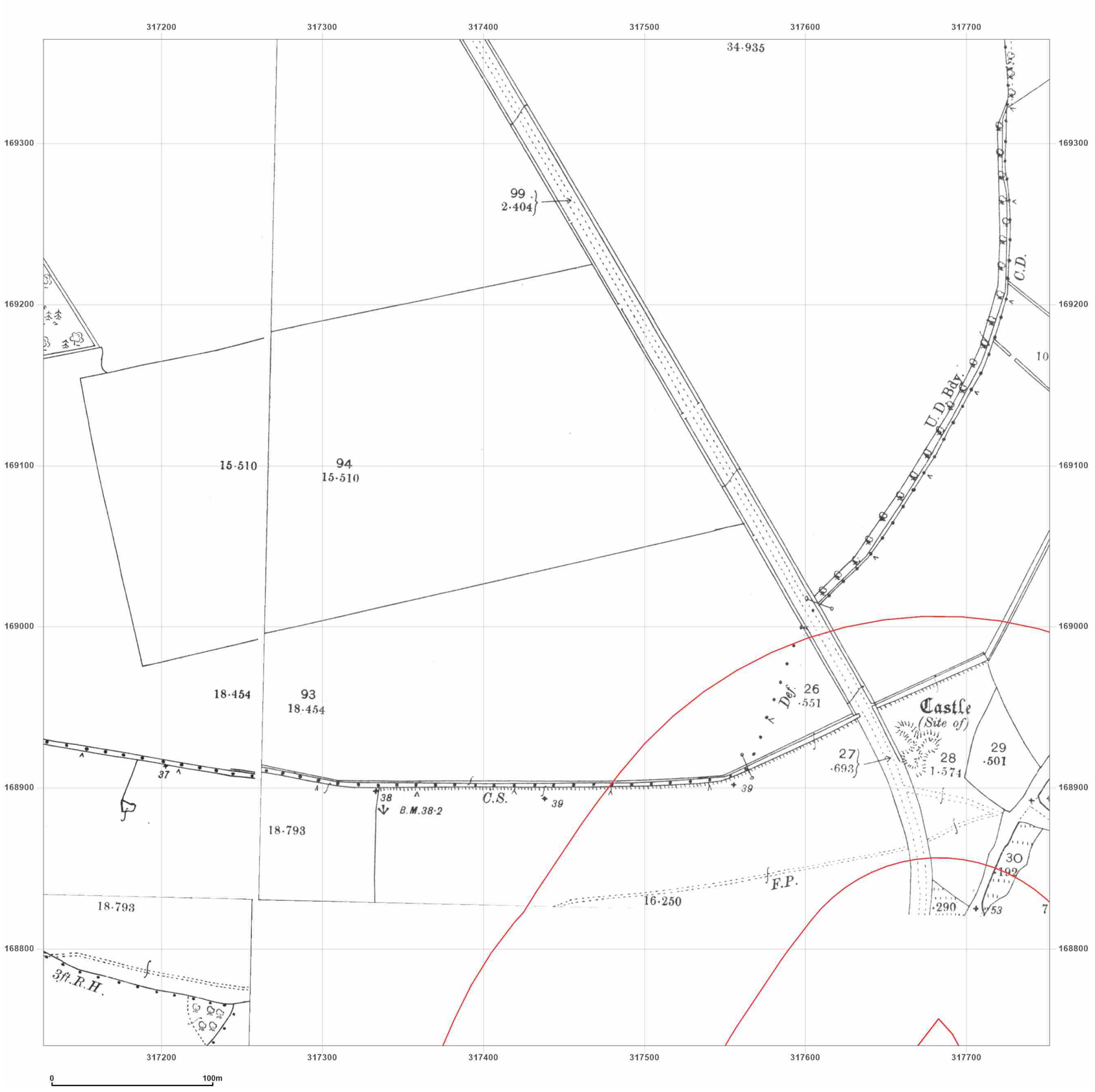
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: County Series

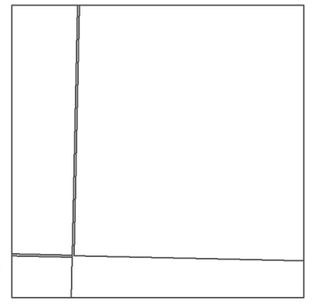
Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

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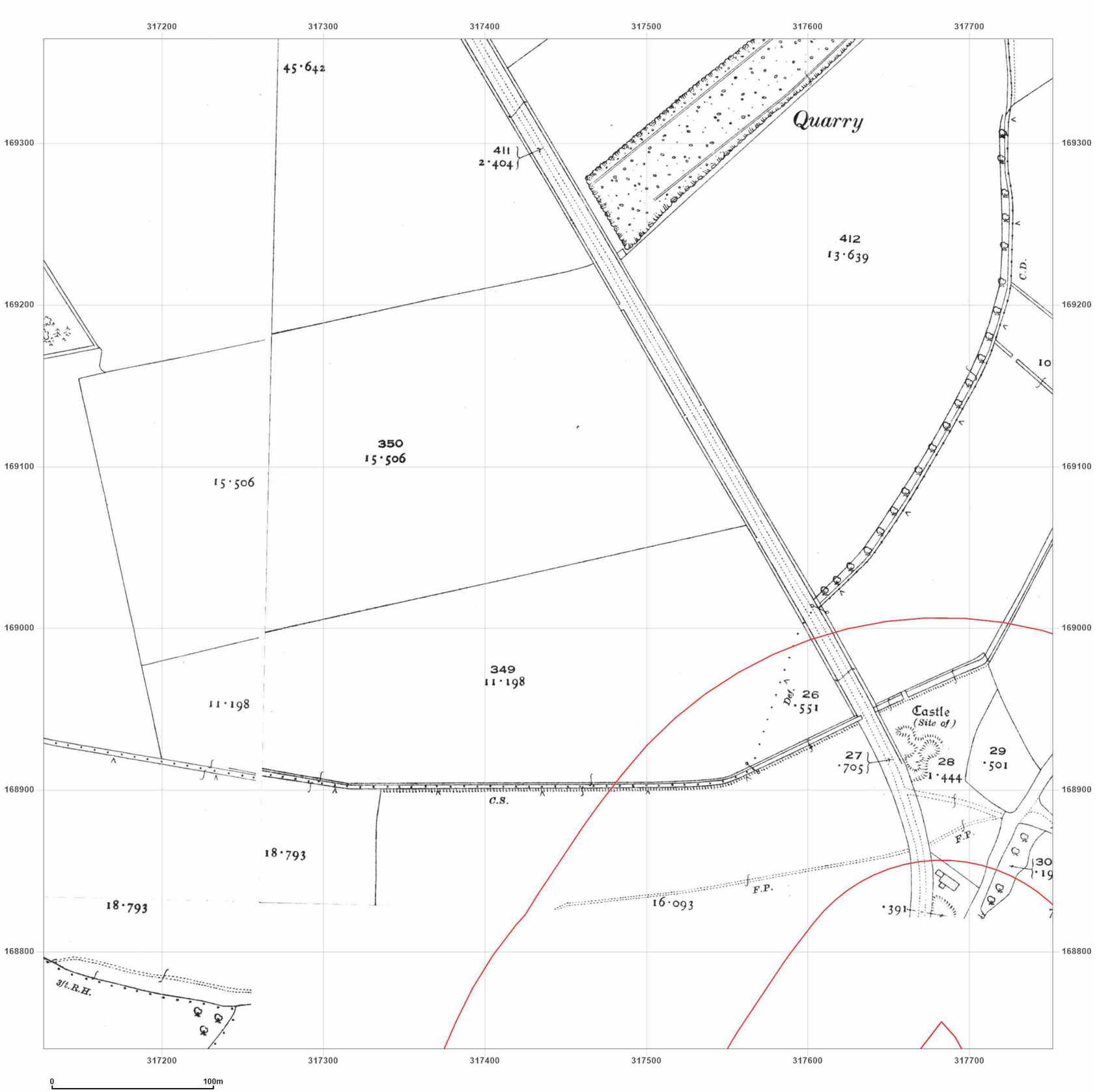
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: County Series

Map date: **1919-1920**

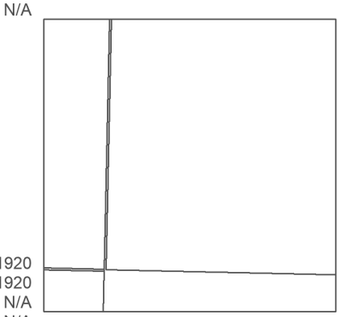
Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

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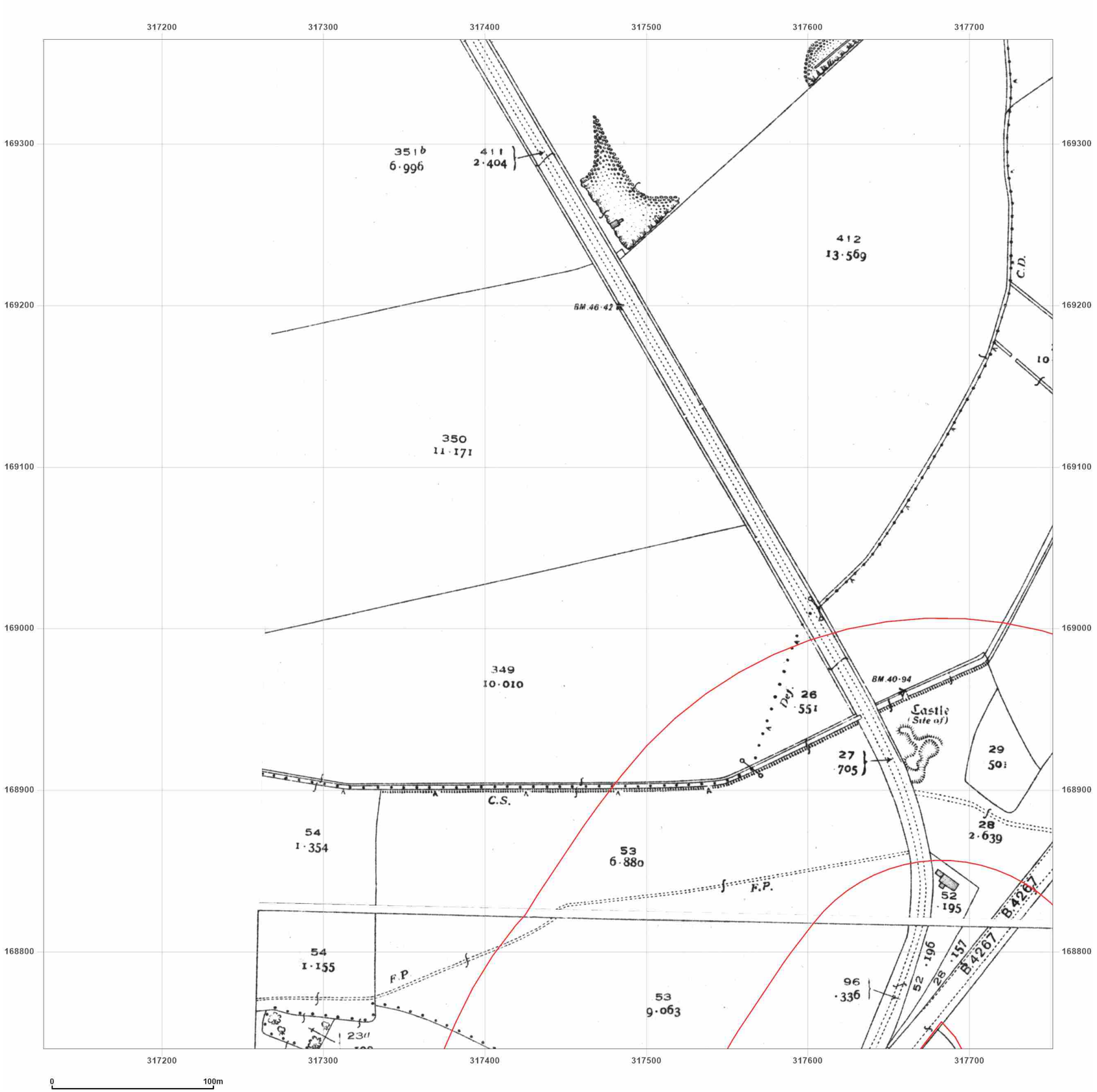
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: County Series

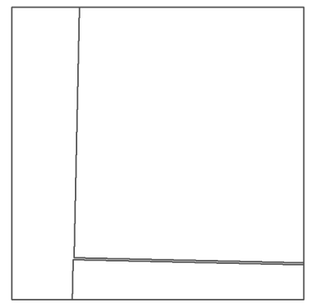
Map date: **1940**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

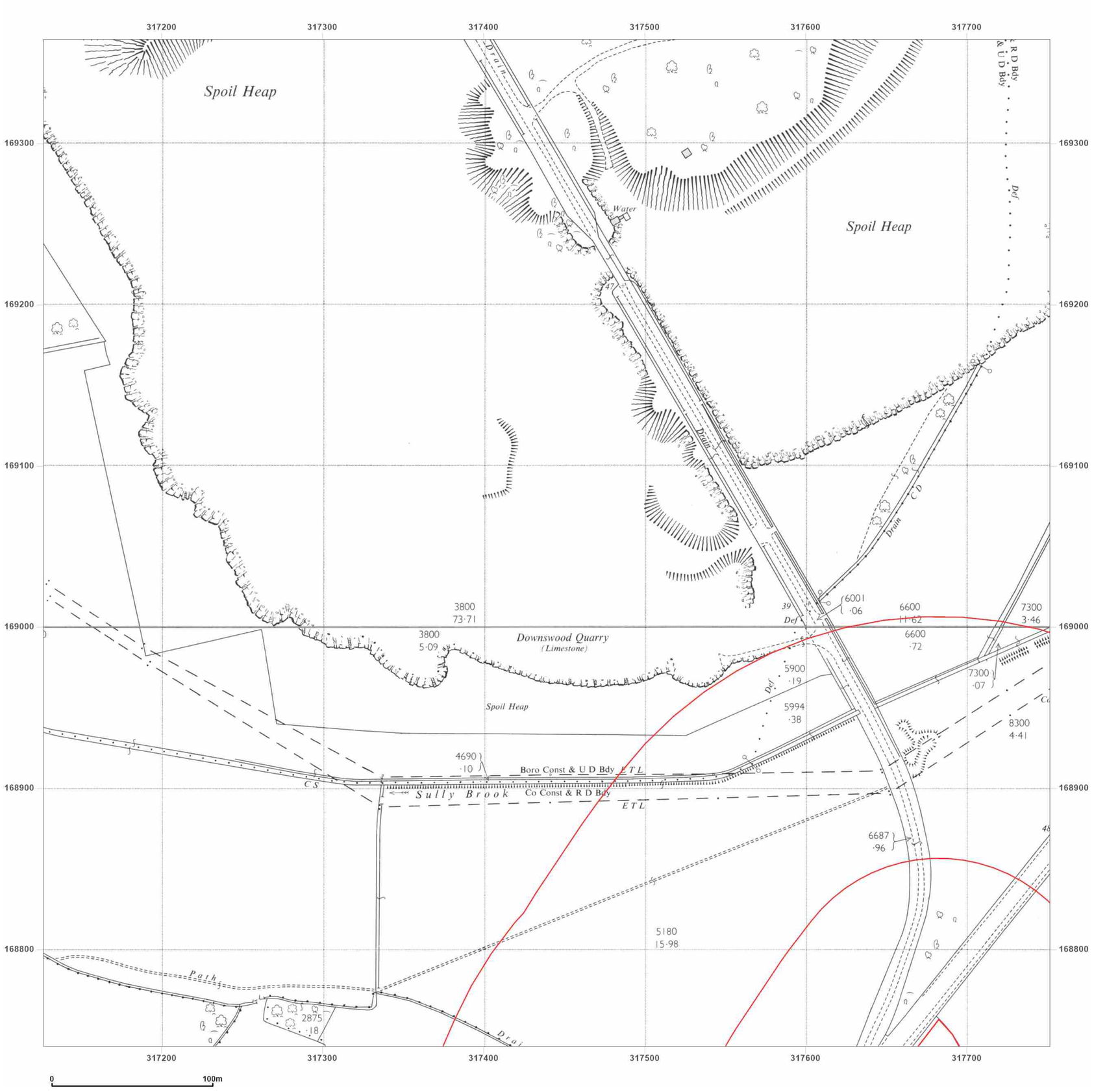
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: National Grid

Map date: **1968-1970**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1968
Revised 1968
Edition N/A
Copyright 1968
Levelled 1961

Surveyed 1969
Revised 1969
Edition N/A
Copyright 1970
Levelled 1961

Groundsure INSIGHTS

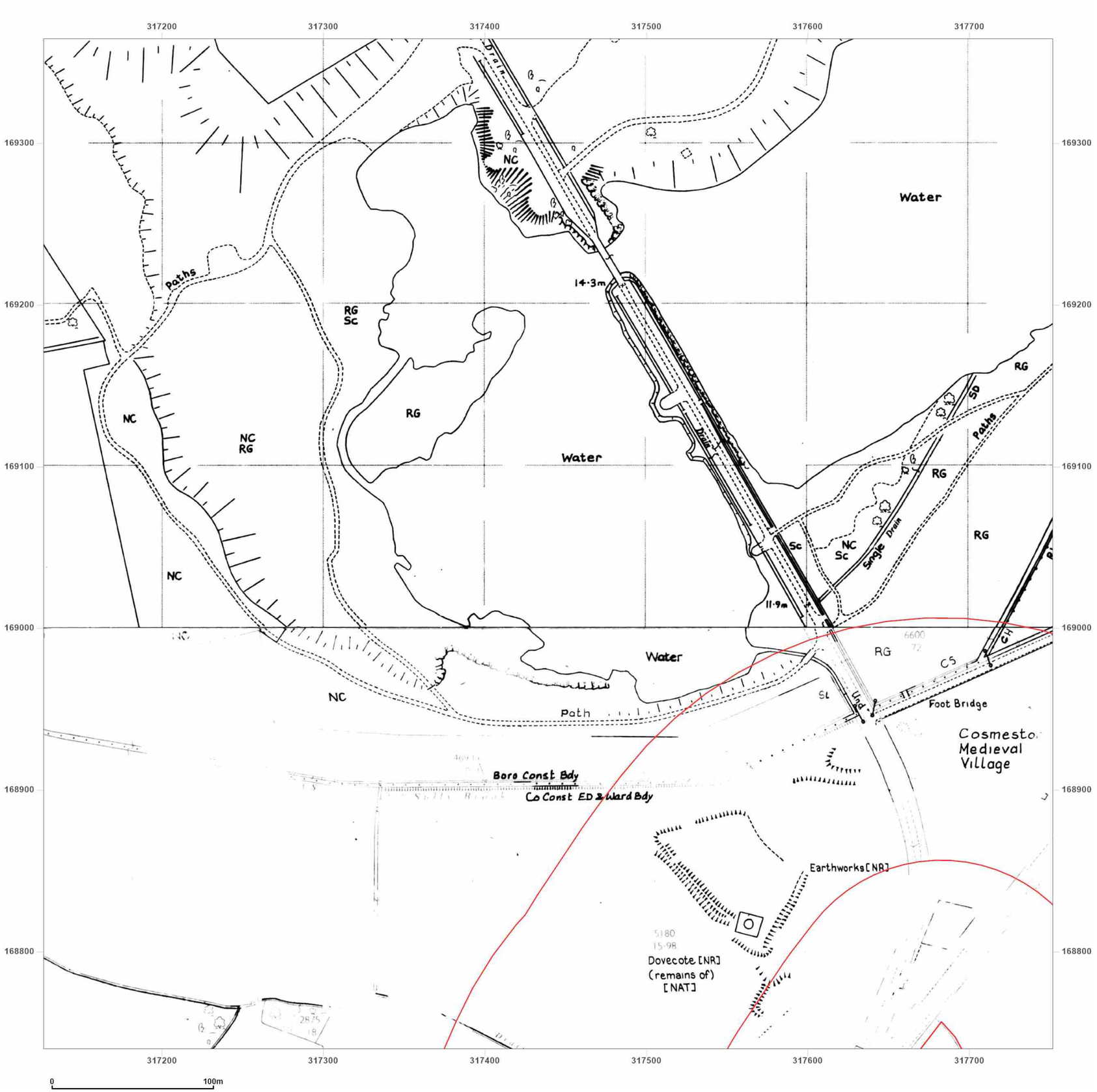
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: National Grid

Map date: **1988**

Scale: 1:2,500

Printed at: 1:2,500

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

Surveyed 1985
Revised 1988
Edition N/A
Copyright 1988
Levelled 1985

Groundsure INSIGHTS

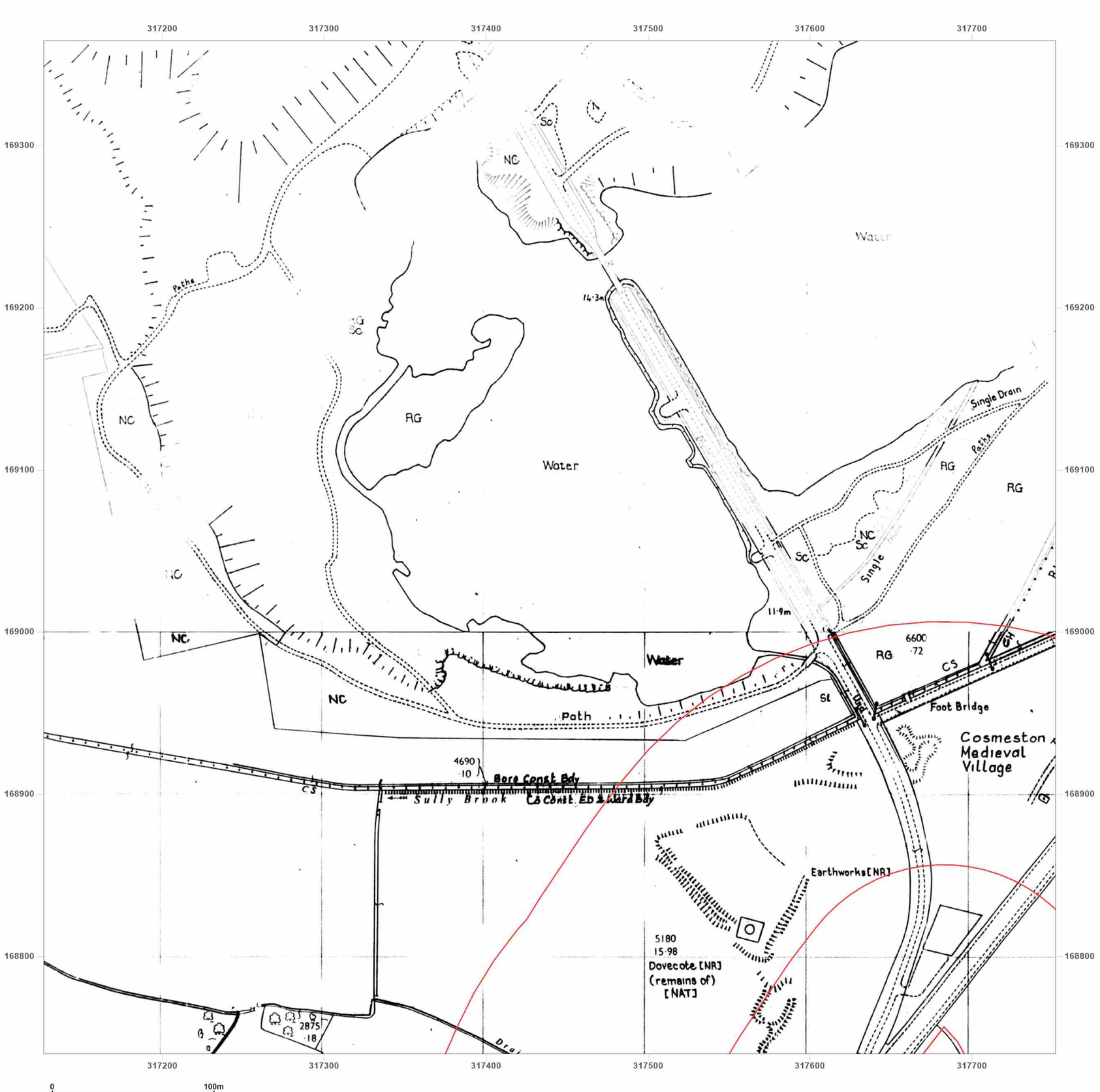
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: National Grid

Map date: **1987-1988**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1987
Levelled N/A

Surveyed 1985
Revised 1988
Edition N/A
Copyright 1988
Levelled 1985

Groundsure INSIGHTS

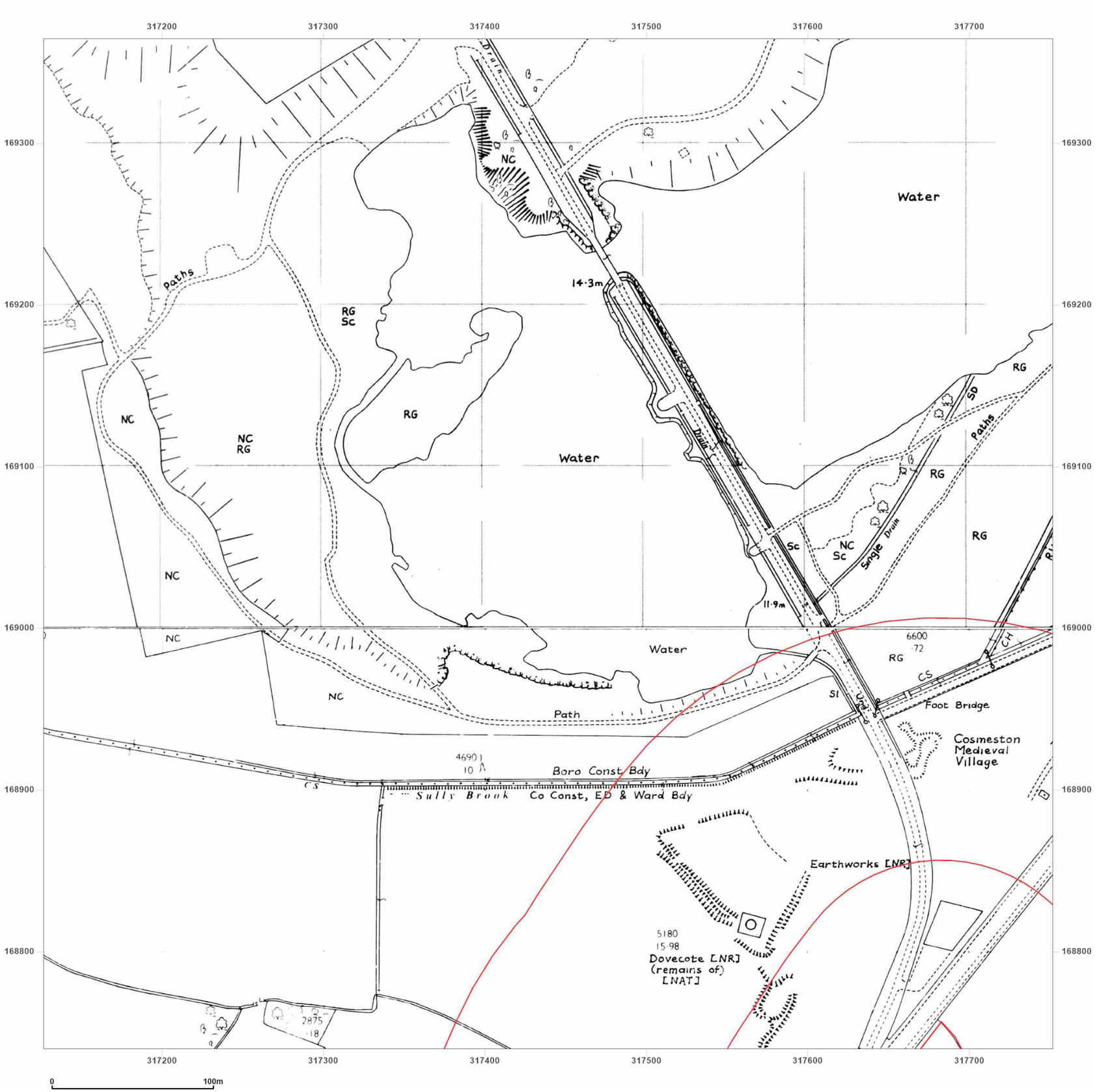
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: National Grid

Map date: **1988-1989**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1985
Revised 1988
Edition N/A
Copyright 1988
Levelled 1985

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

Groundsure INSIGHTS

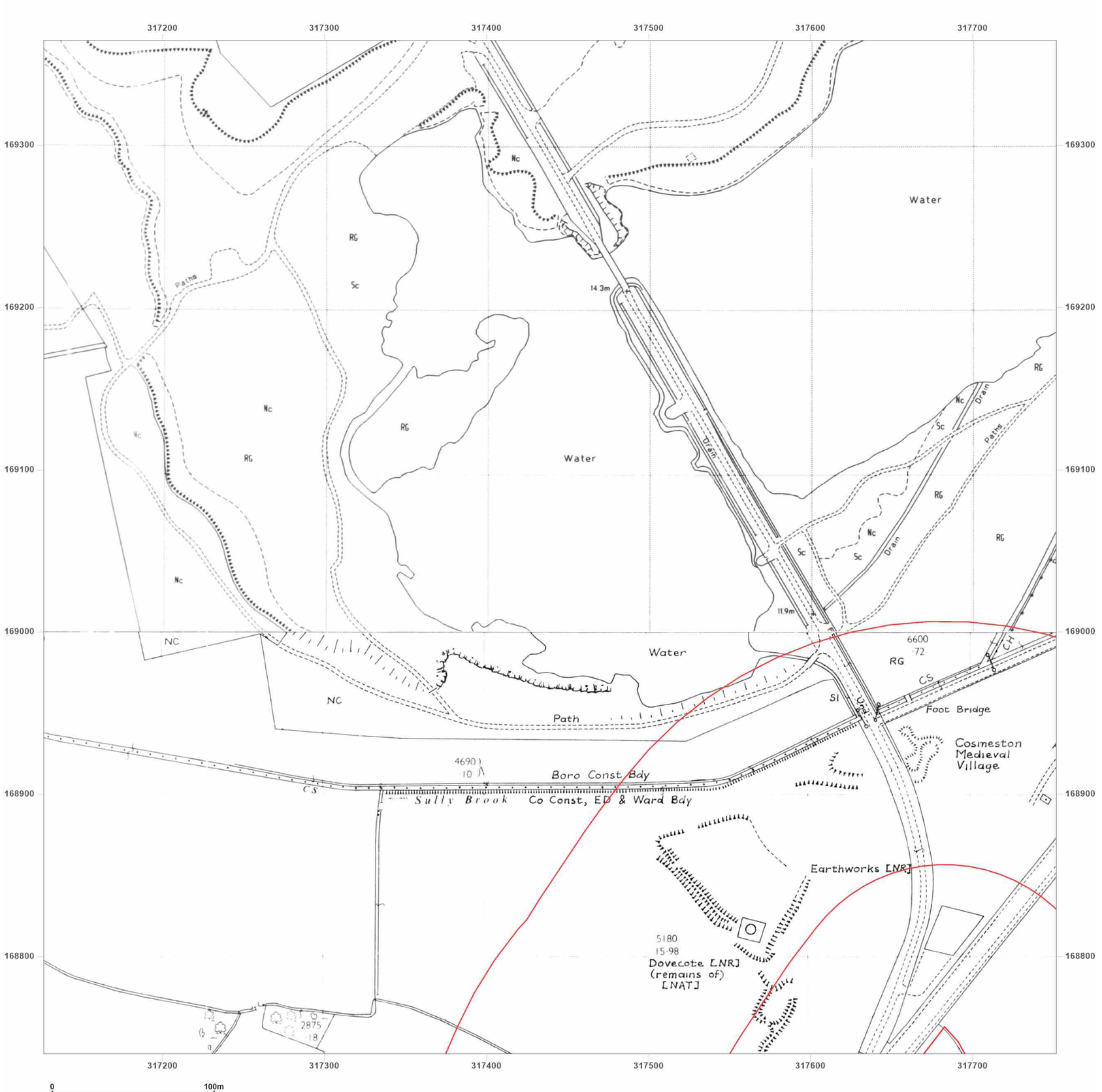
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: National Grid

Map date: **1989-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1989
Edition N/A
Copyright 1989
Levelled 1985

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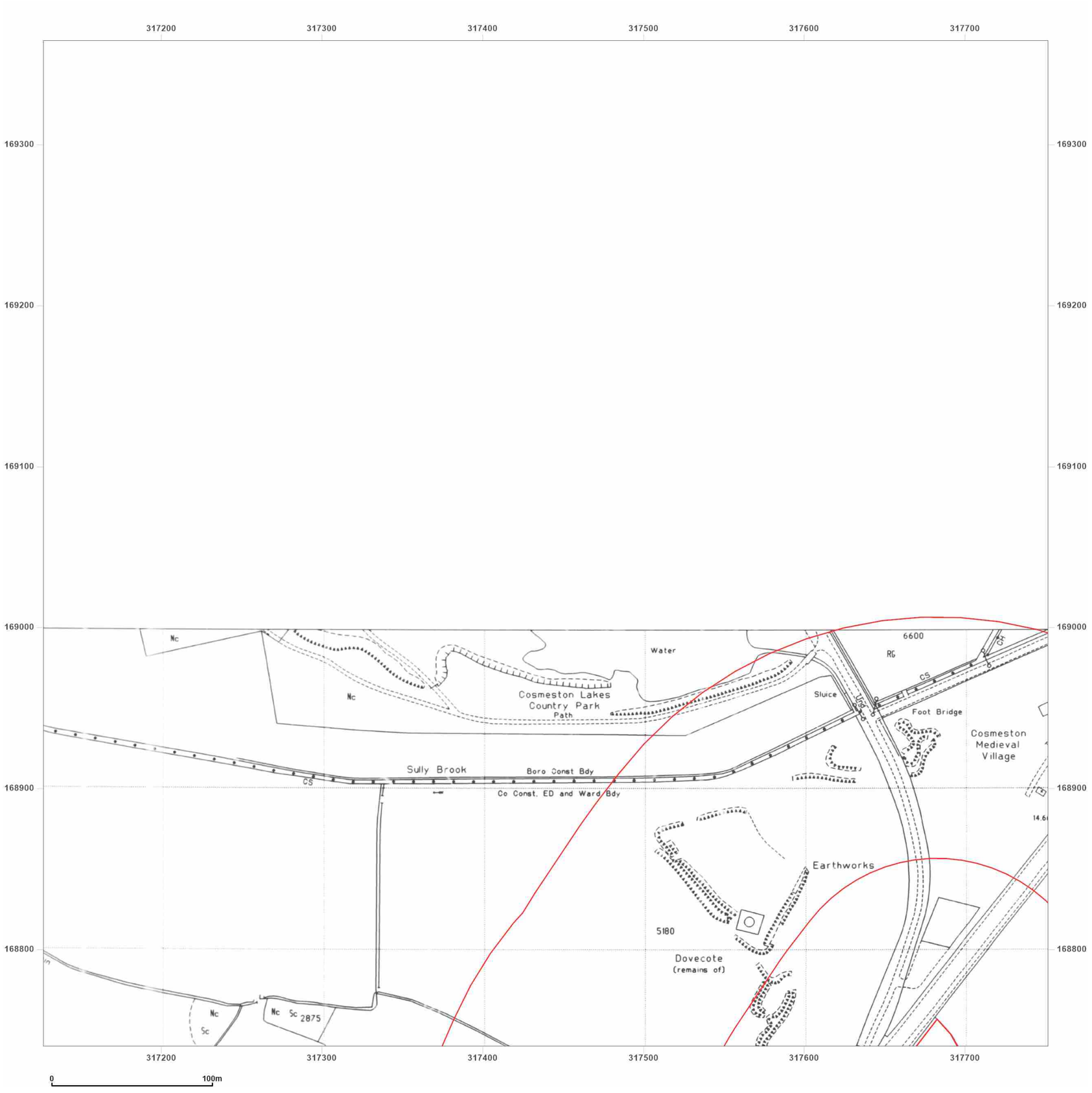
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_2_3
Grid Ref: 317439, 169052

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

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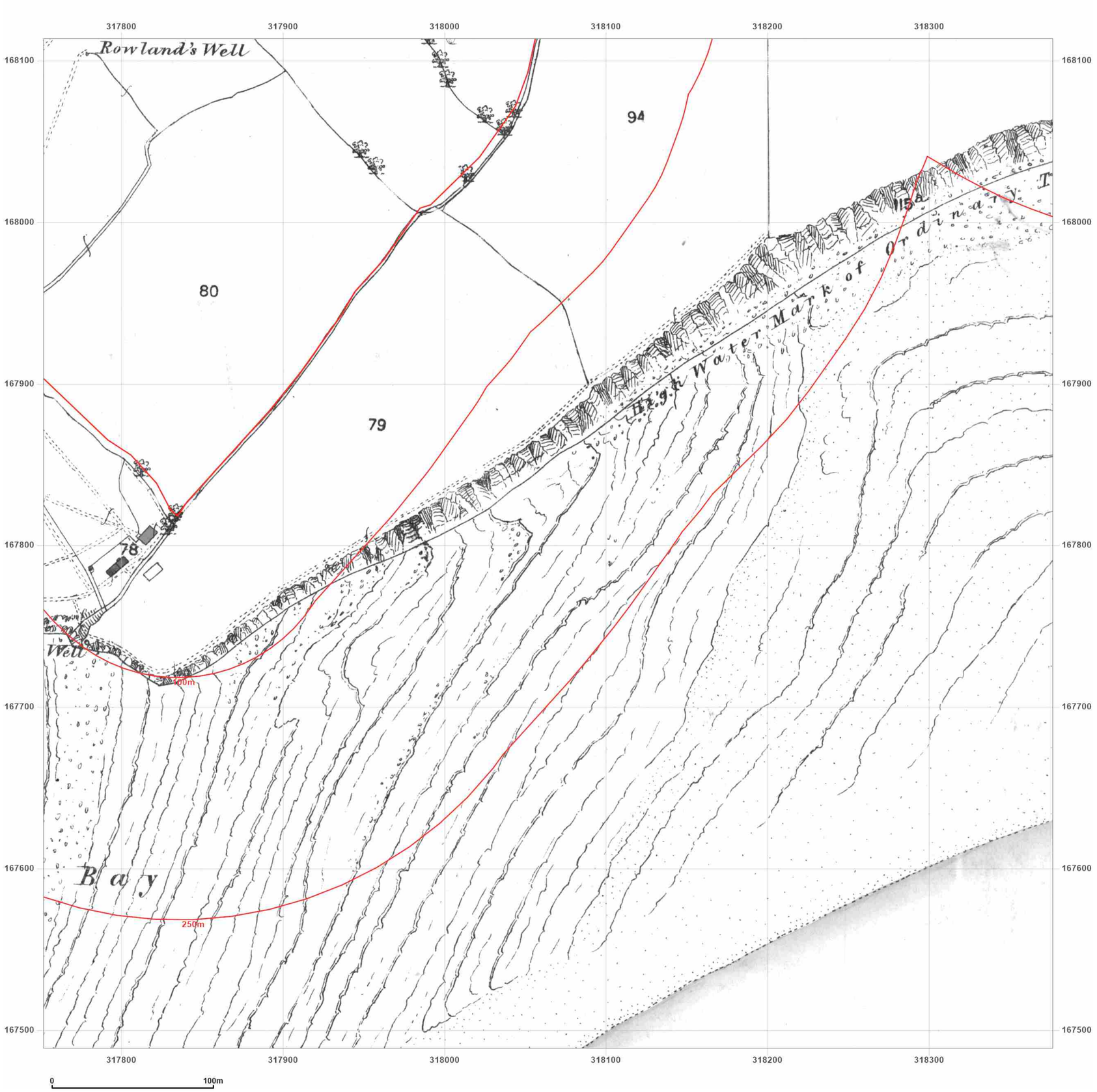
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_1
Grid Ref: 318064, 167801

Map Name: County Series

Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

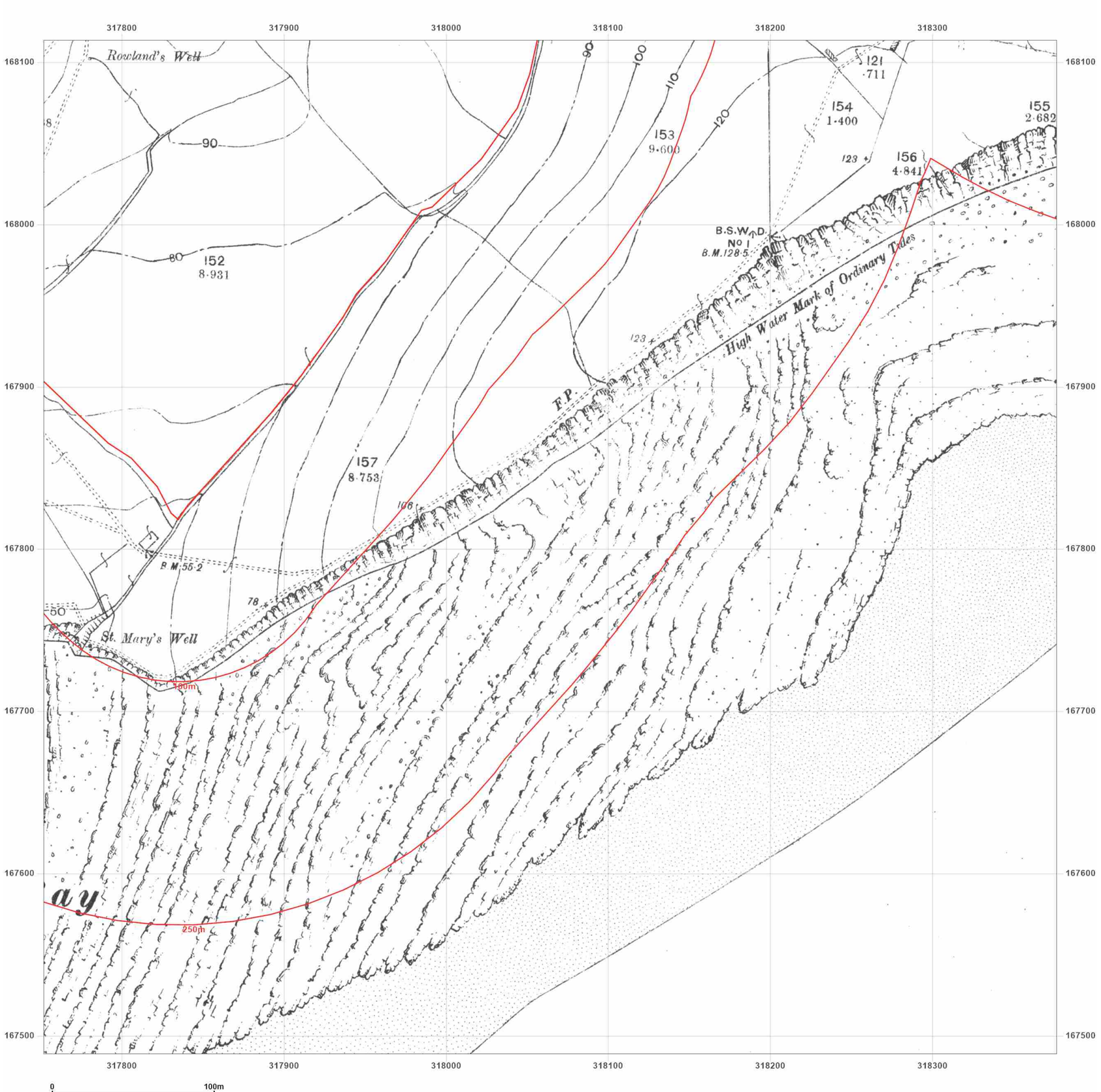
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_1
Grid Ref: 318064, 167801

Map Name: County Series

Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

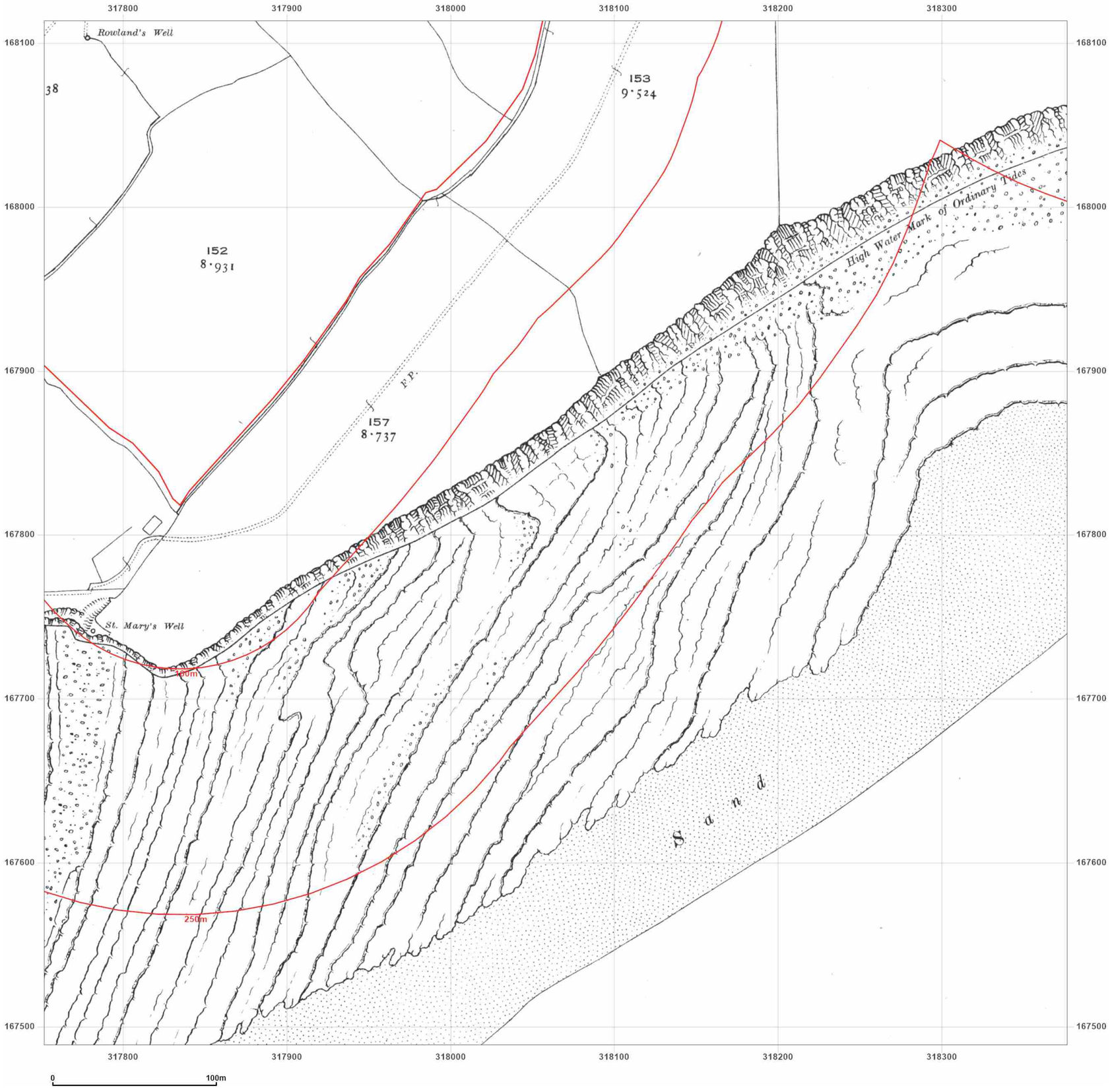
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_1
Grid Ref: 318064, 167801

Map Name: County Series

Map date: **1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

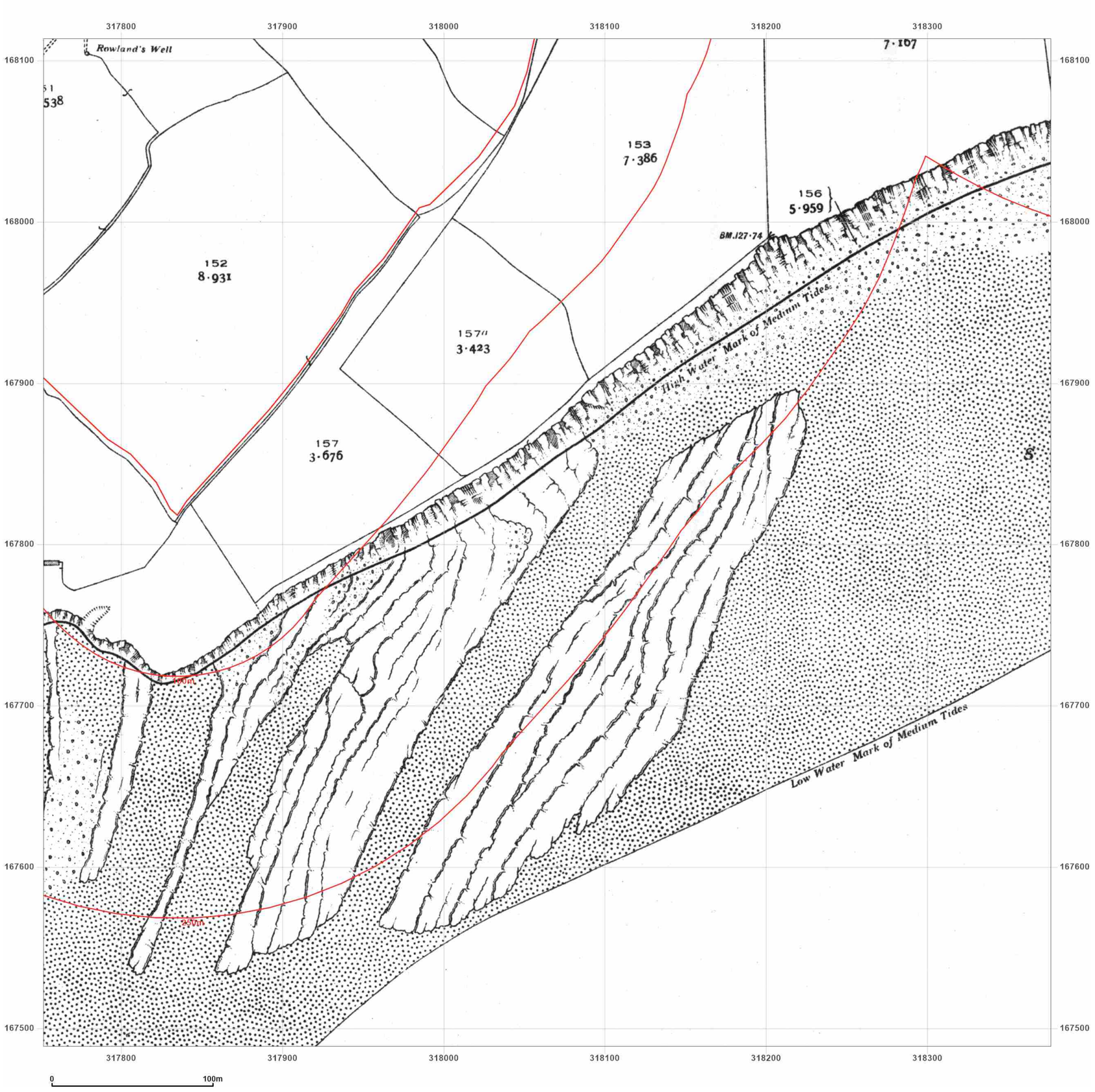
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_1
Grid Ref: 318064, 167801

Map Name: County Series

Map date: **1940**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

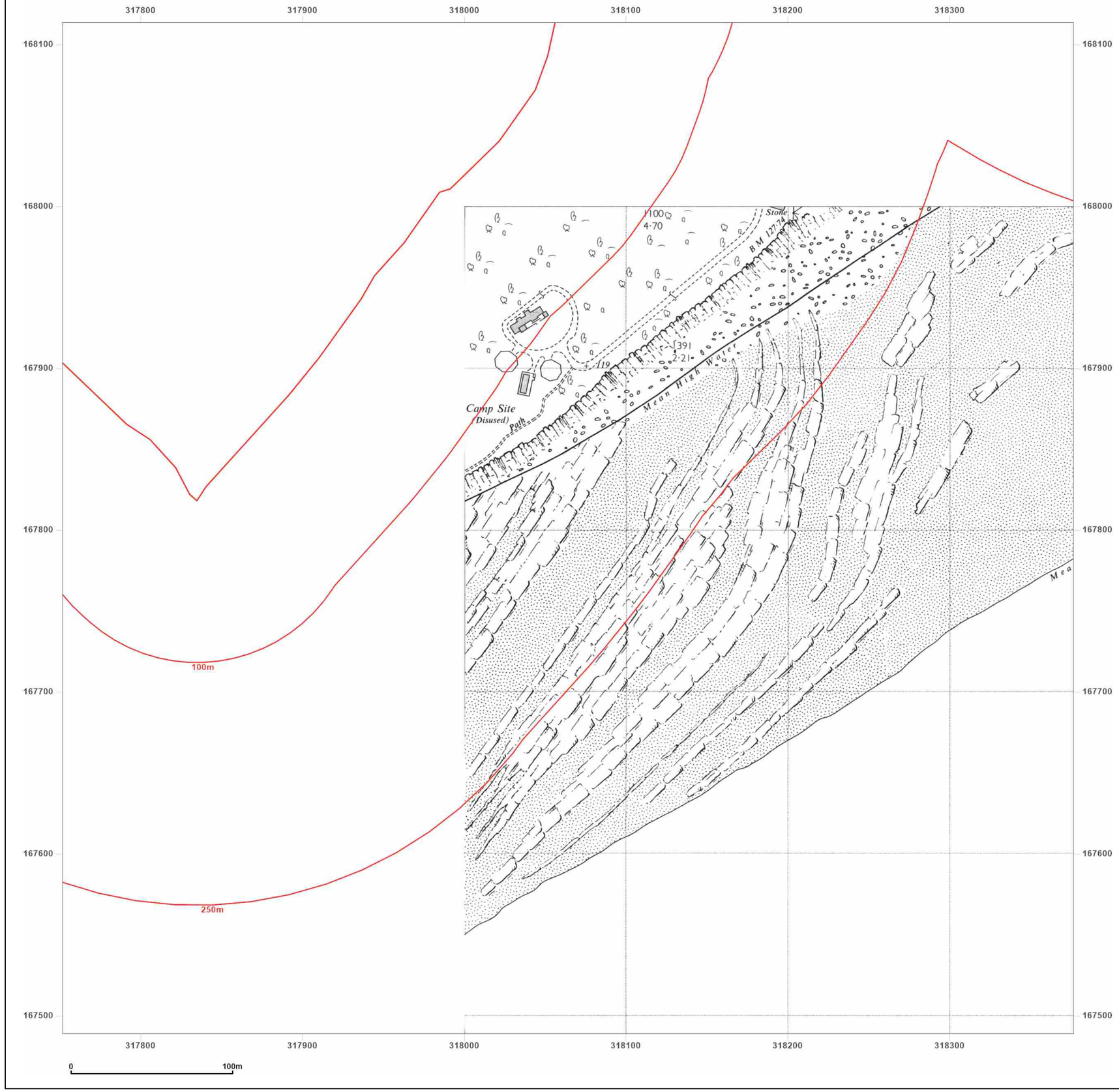
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Site Details:

Combined areas

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Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_1
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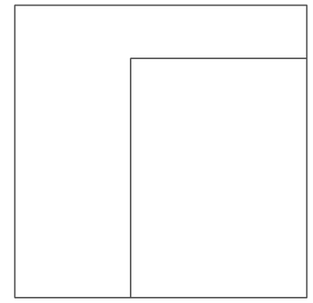
Map Name: National Grid

Map date: **1969**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1969
Revised 1969
Edition N/A
Copyright 1969
Levelled 1961

Groundsure INSIGHTS

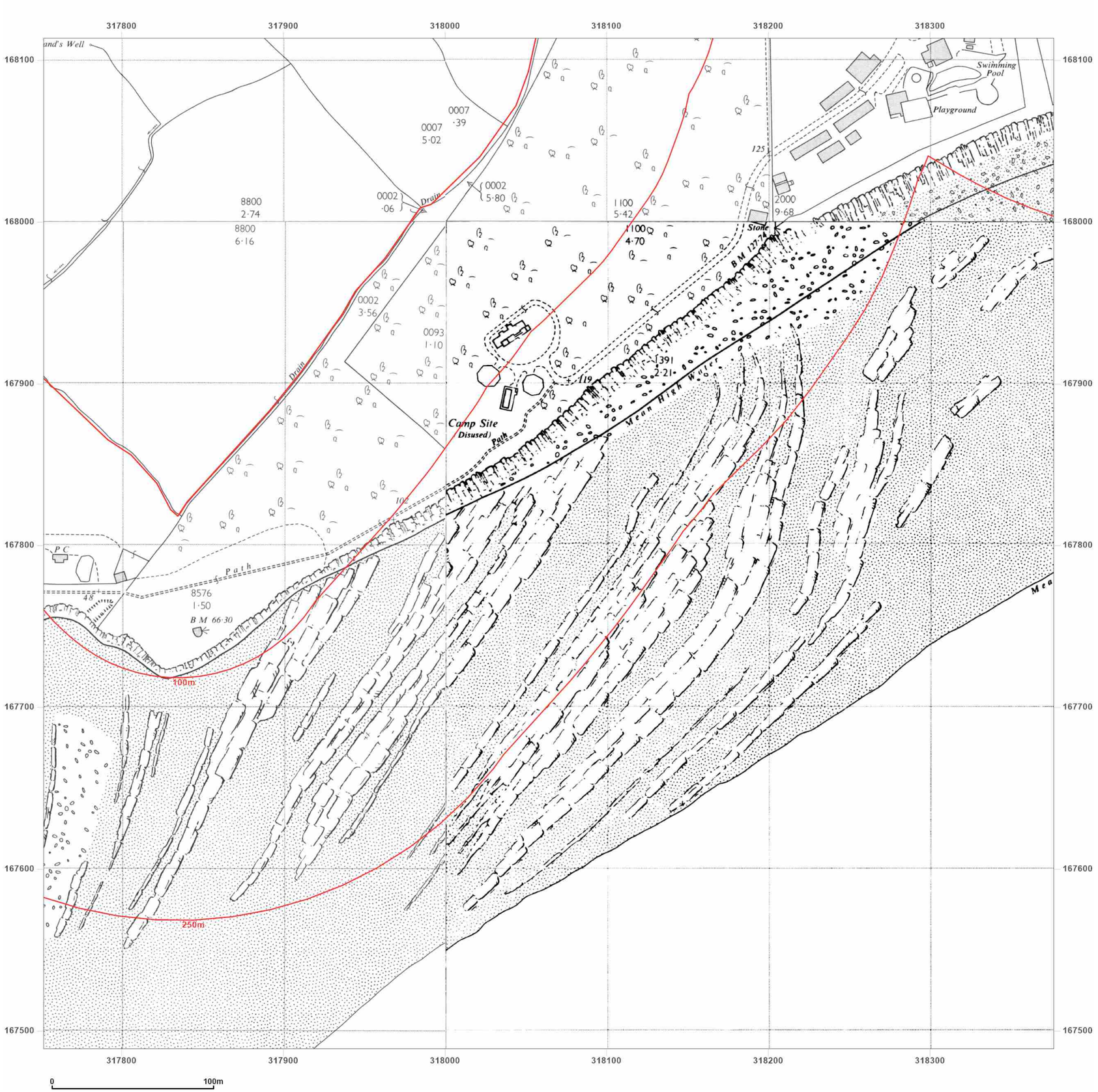
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_1
Grid Ref: 318064, 167801

Map Name: National Grid

Map date: **1968-1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1969
Revised 1969
Edition N/A
Copyright 1970
Levelled 1961

Surveyed 1969
Revised 1969
Edition N/A
Copyright 1969
Levelled 1961

Surveyed 1968
Revised 1968
Edition N/A
Copyright 1968
Levelled 1961

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

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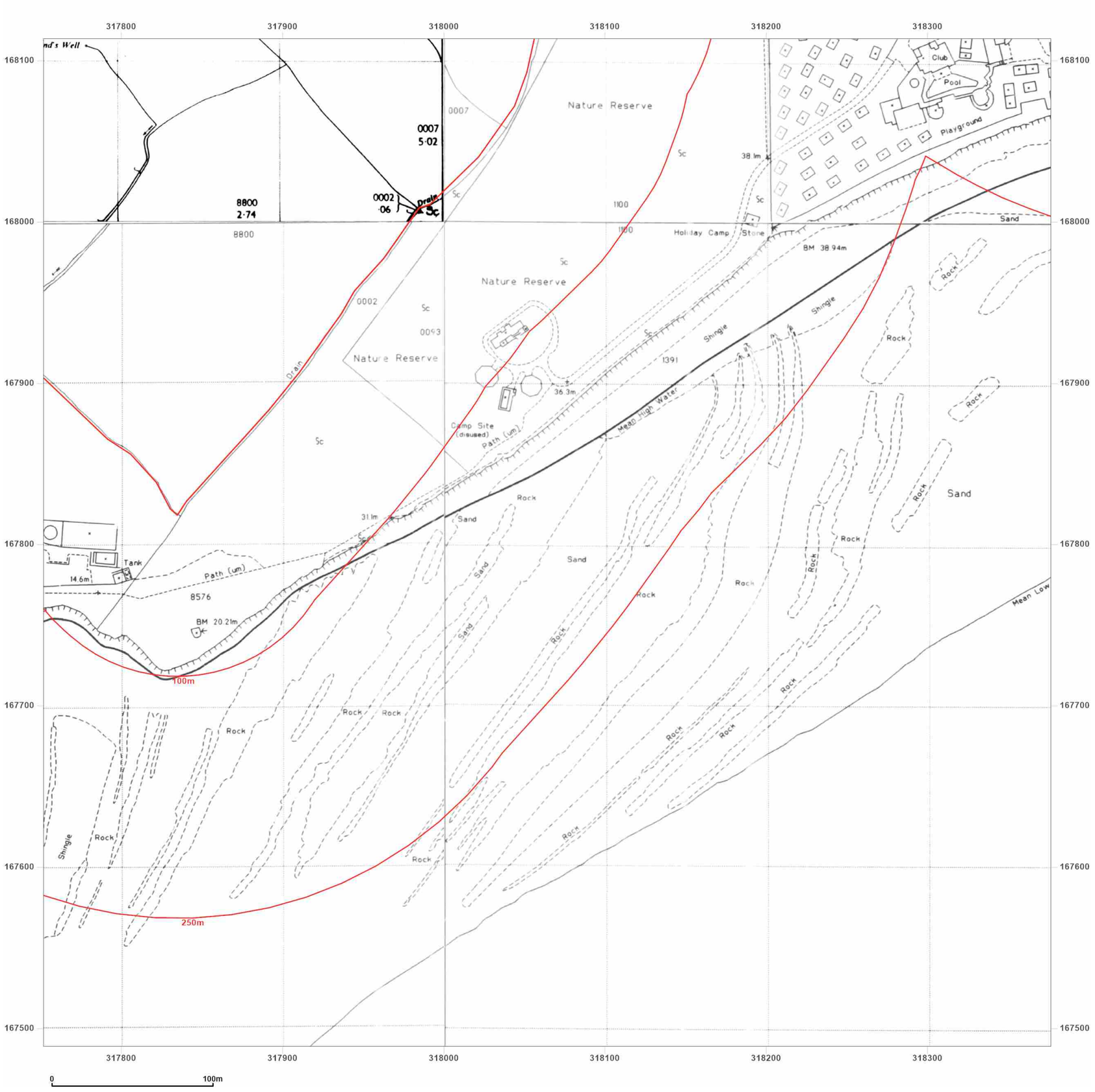
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_1
Grid Ref: 318064, 167801

Map Name: National Grid

Map date: **1988-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1985
Revised 1988
Edition N/A
Copyright 1988
Levelled 1985

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

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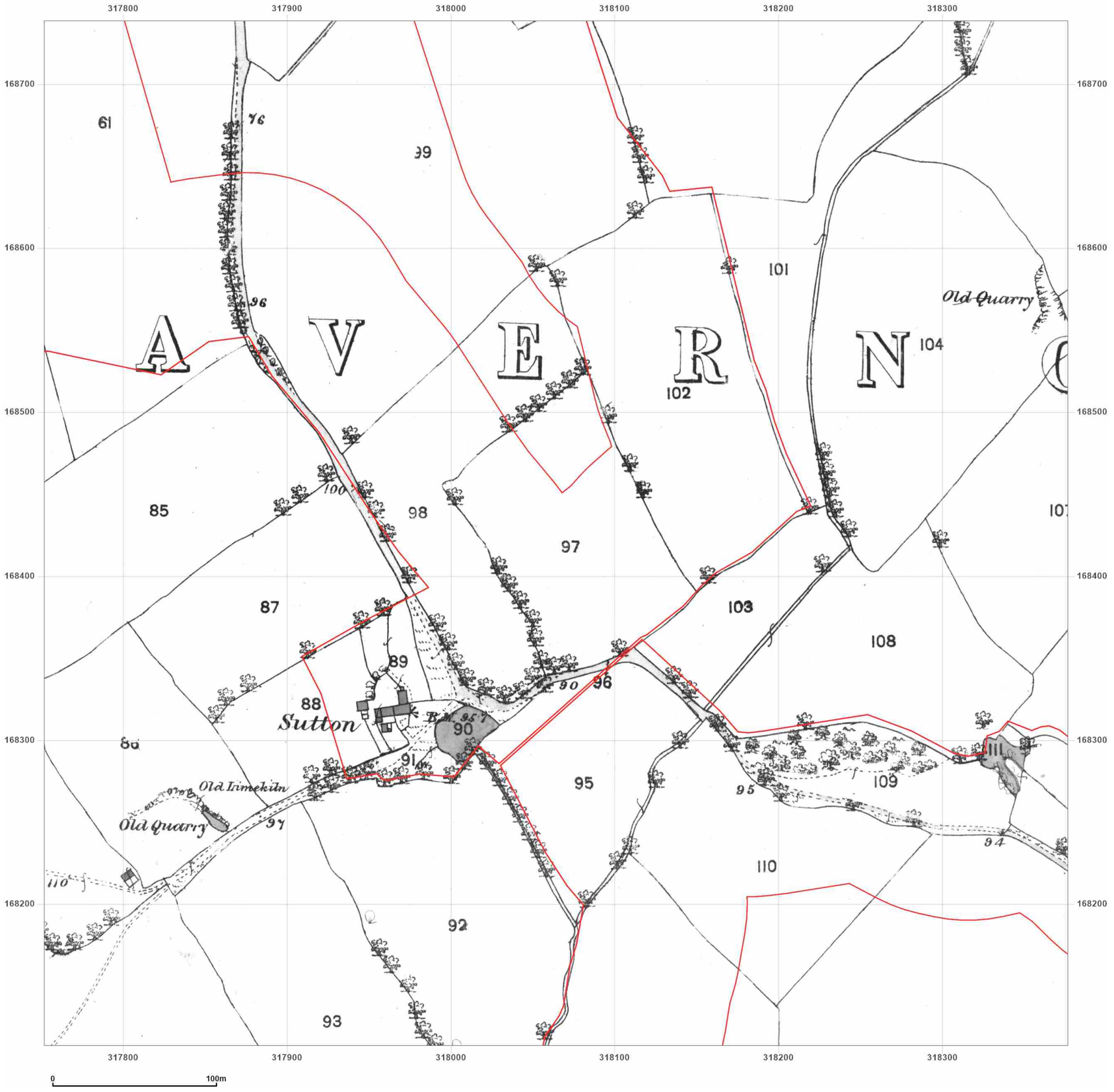
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Production date: 25 June 2025

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

Map Name: County Series

Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

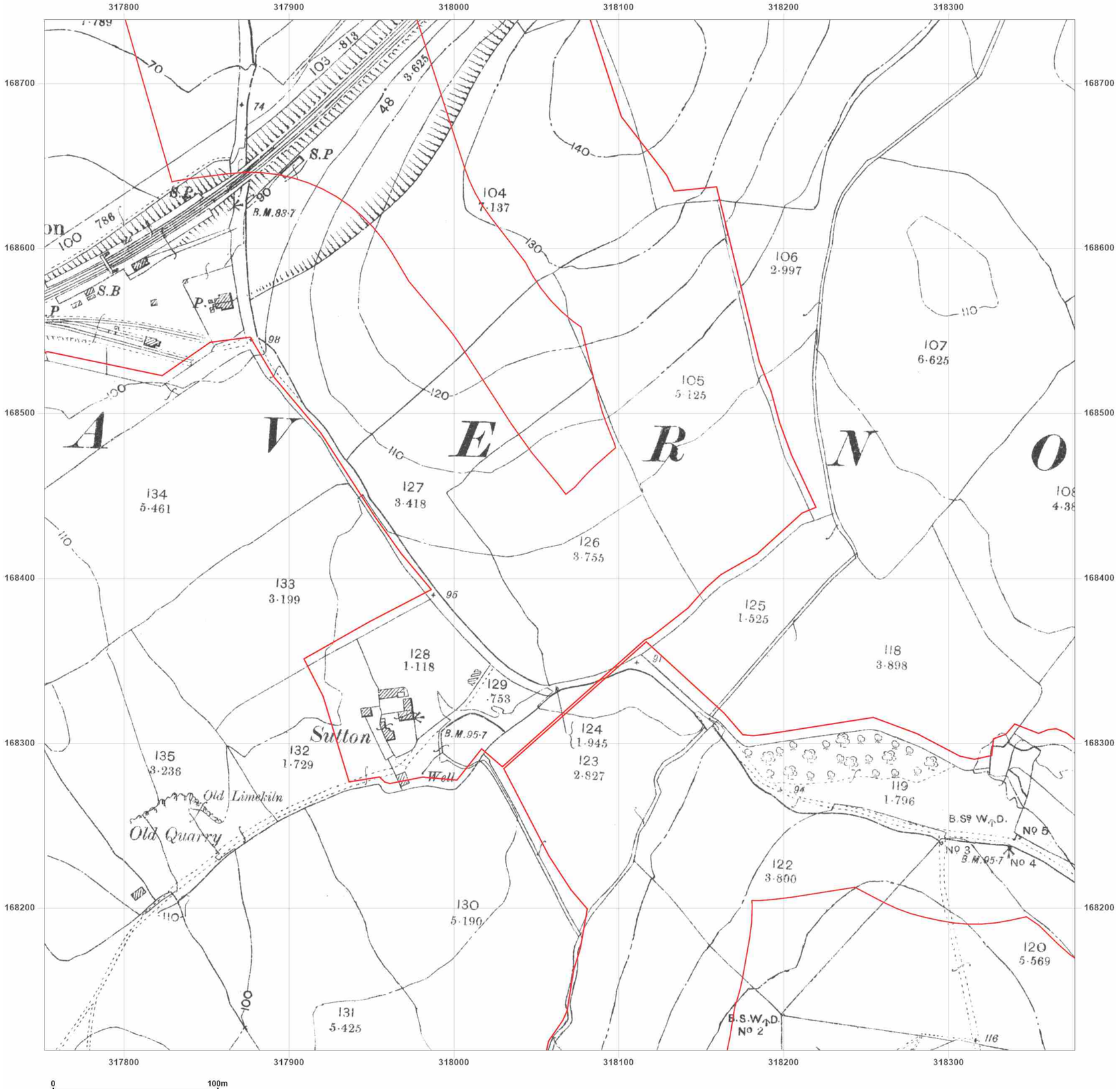
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Production date: 25 June 2025

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

Map Name: County Series

Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

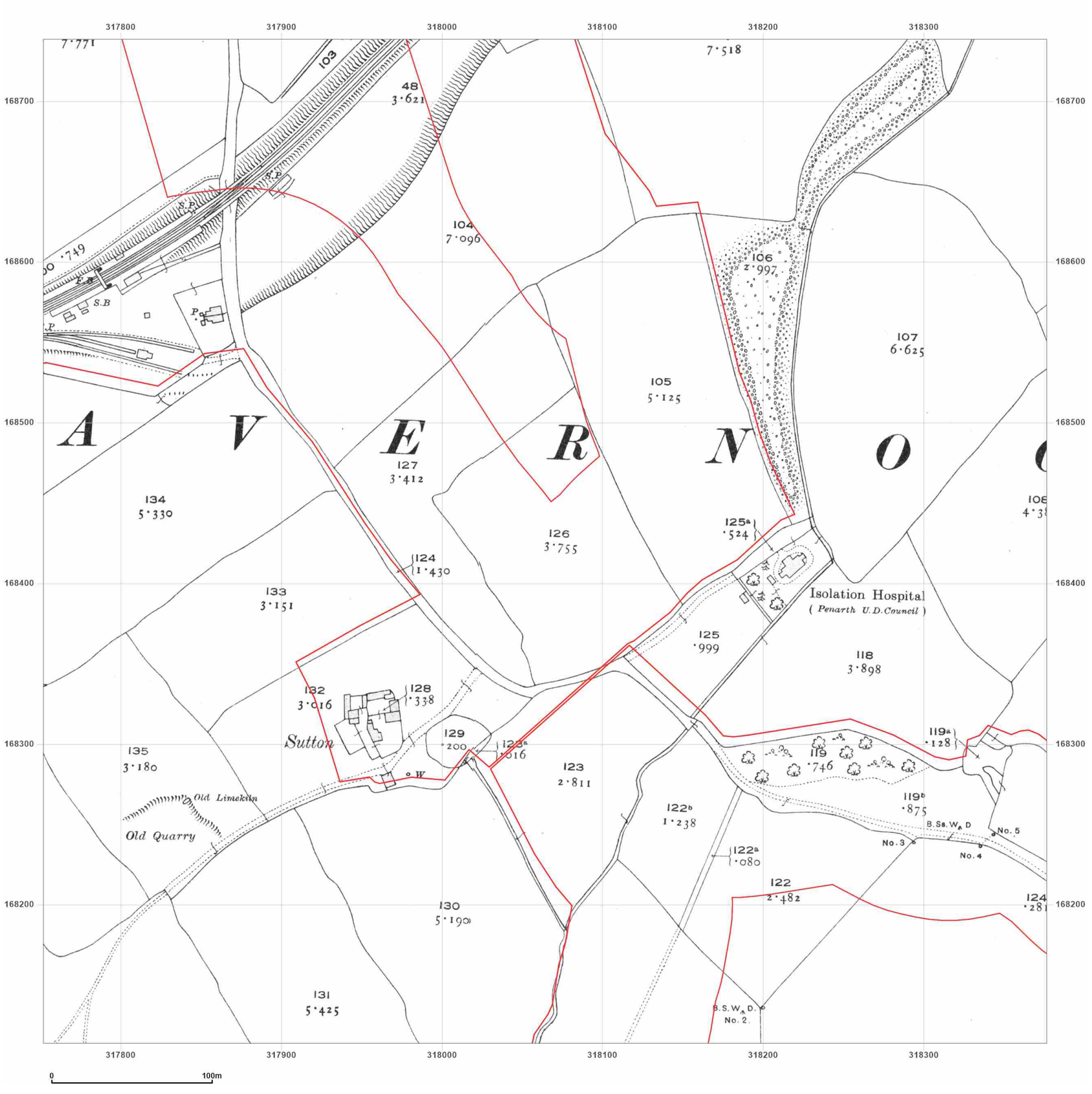
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

Map Name: County Series

Map date: **1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

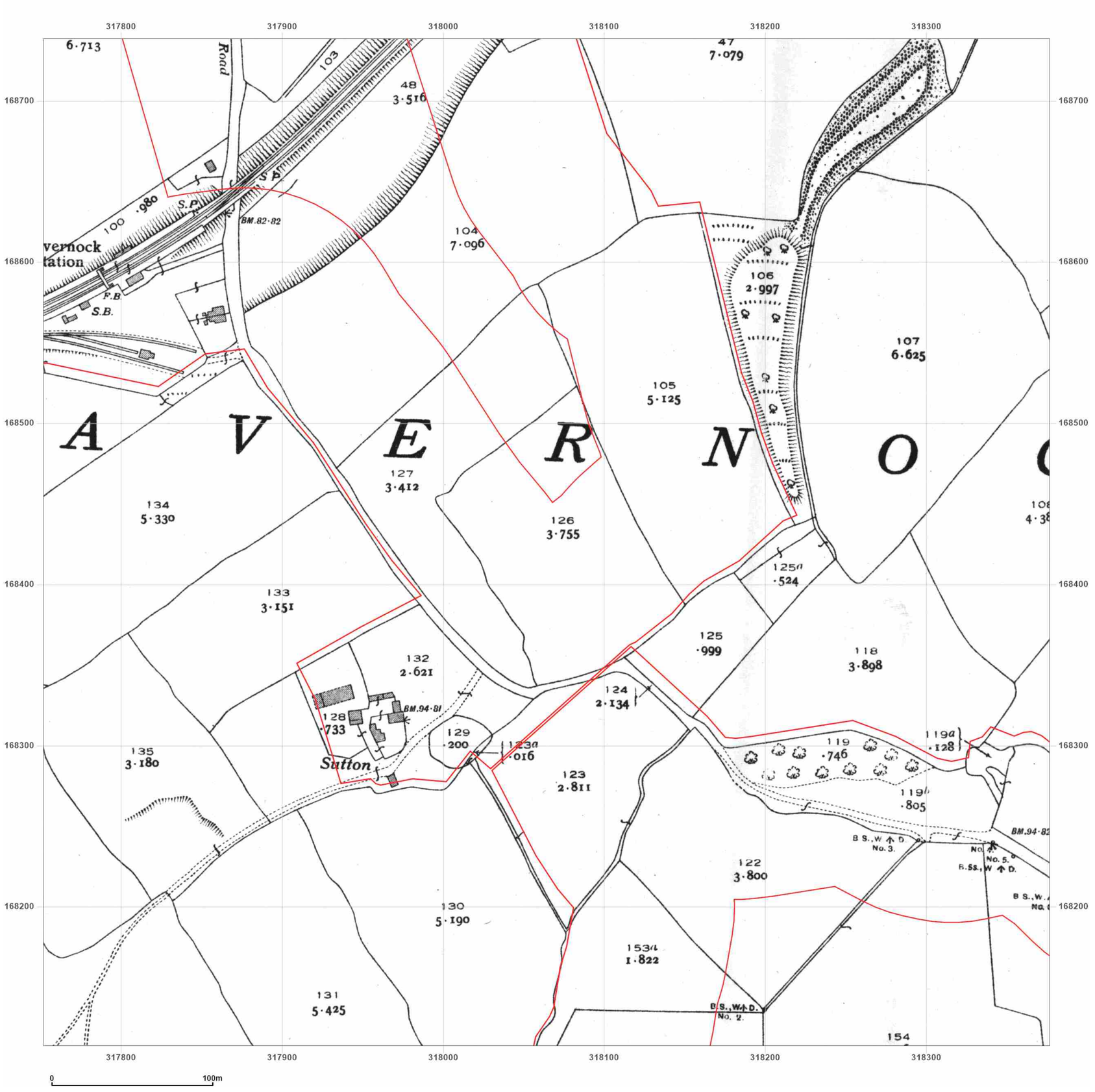
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

Map Name: County Series

Map date: **1940**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

Map Name: National Grid

Map date: **1969-1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1969 Revised 1969 Edition N/A Copyright 1970 Levelled 1961	Surveyed 1969 Revised 1969 Edition N/A Copyright 1969 Levelled 1961

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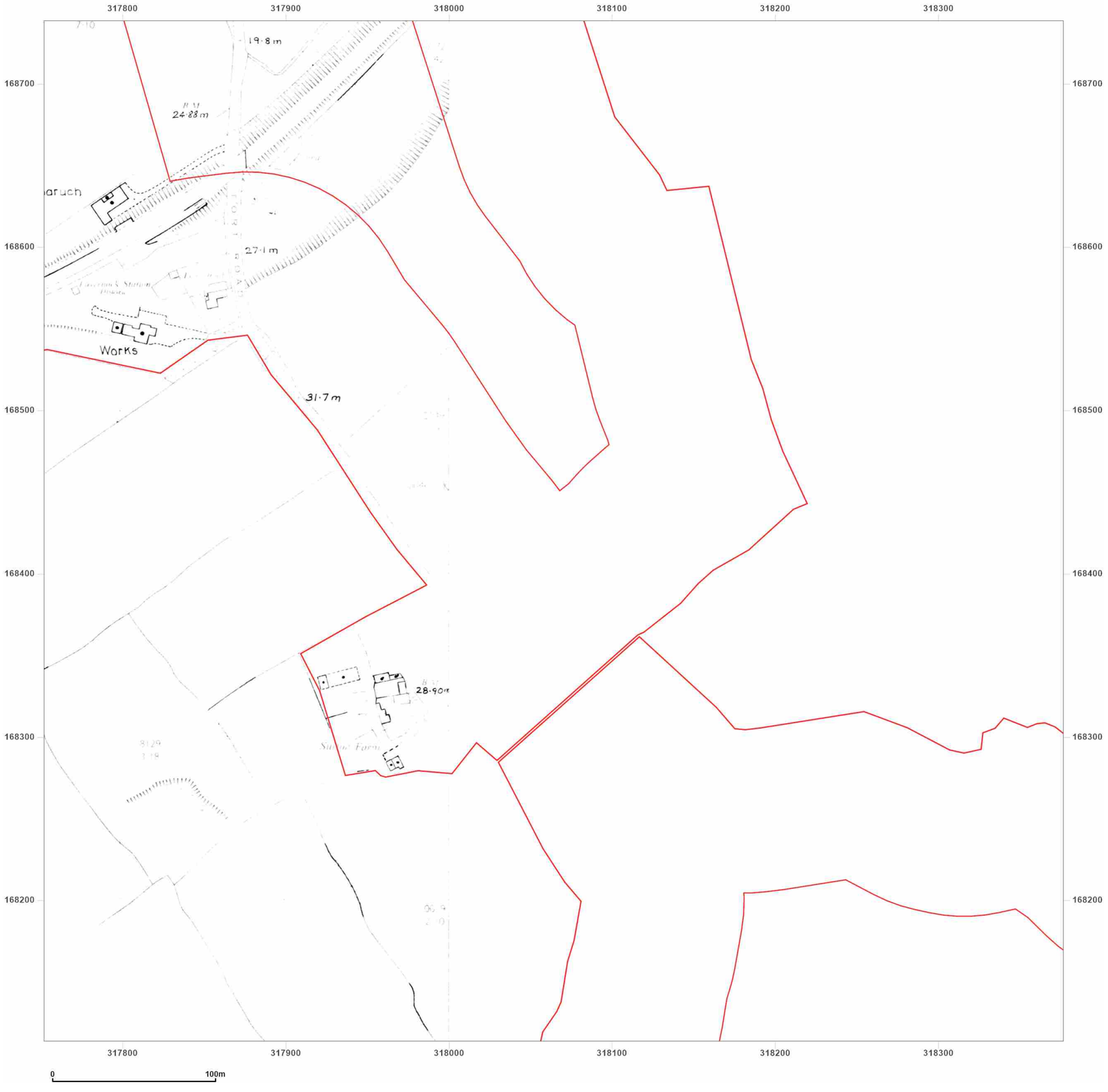
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

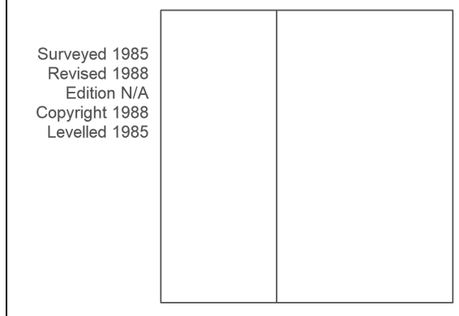
Map Name: National Grid

Map date: **1988**

Scale: 1:2,500

Printed at: 1:2,500

N
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

Map Name: National Grid

Map date: **1989**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1985
Revised 1989
Edition N/A
Copyright 1989
Levelled 1985

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

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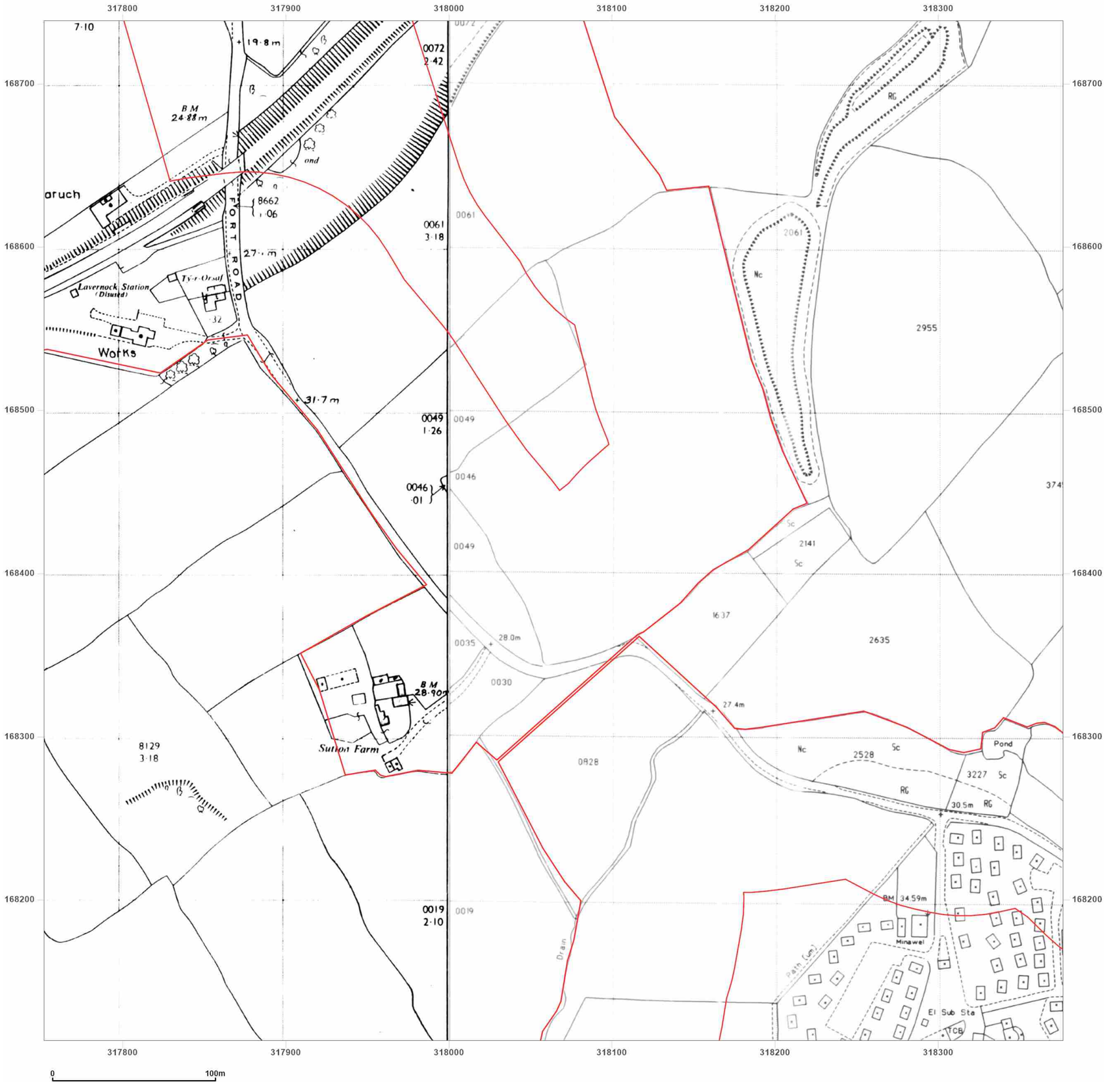
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_2
Grid Ref: 318064, 168426

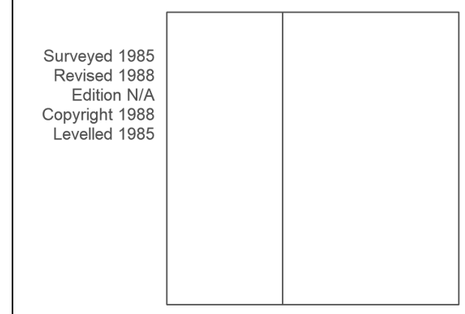
Map Name: National Grid

Map date: **1988-1993**

Scale: 1:2,500

Printed at: 1:2,500

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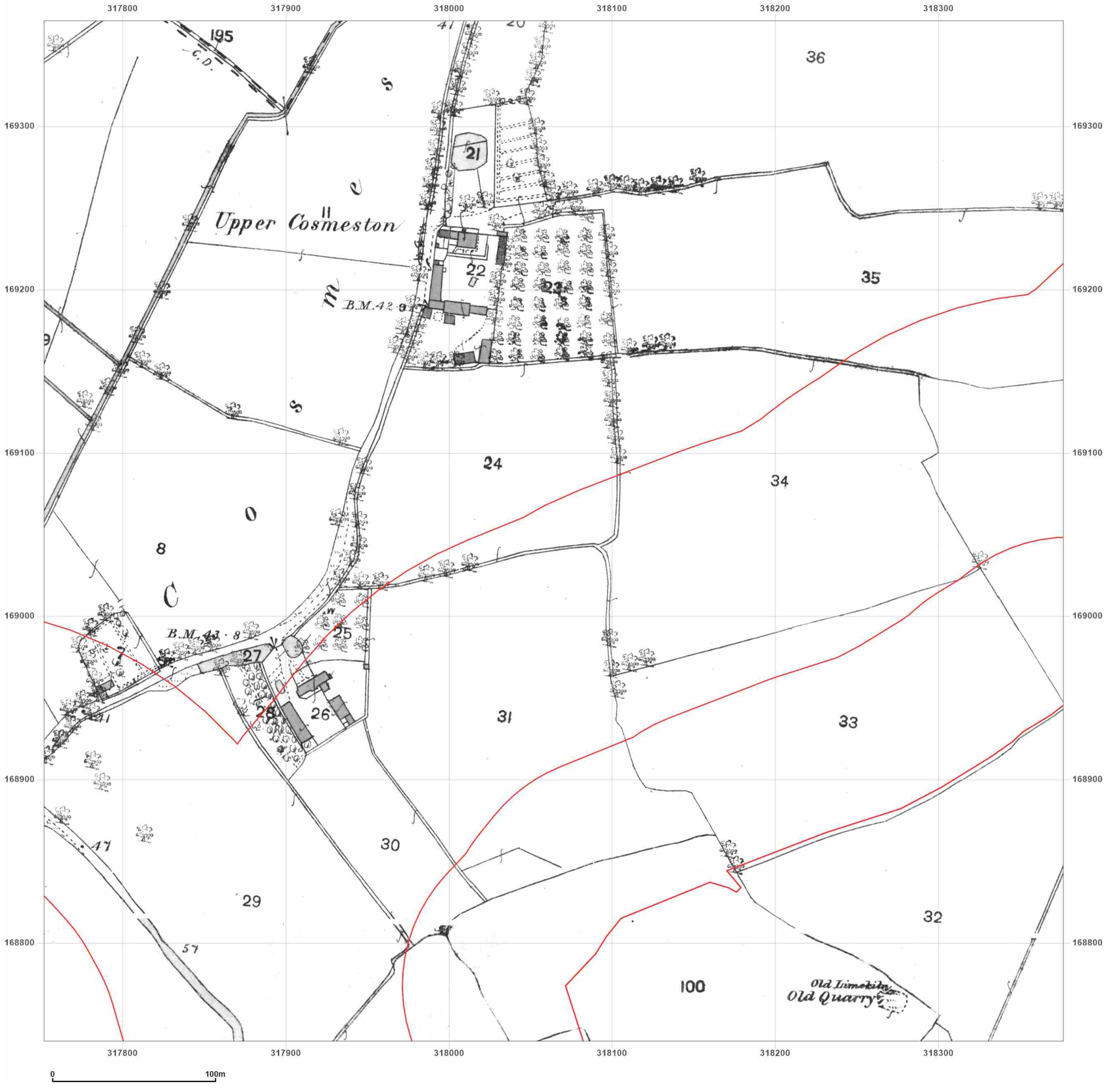
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WSP

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_3
Grid Ref: 318064, 169052

Map Name: County Series

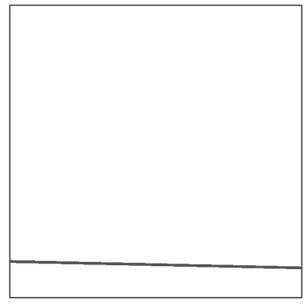
Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 25 June 2025

Map legend available at:
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_3
Grid Ref: 318064, 169052

Map Name: County Series

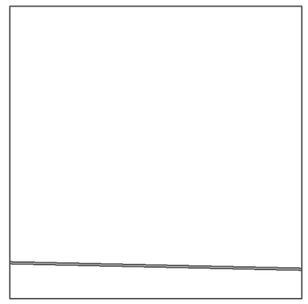
Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

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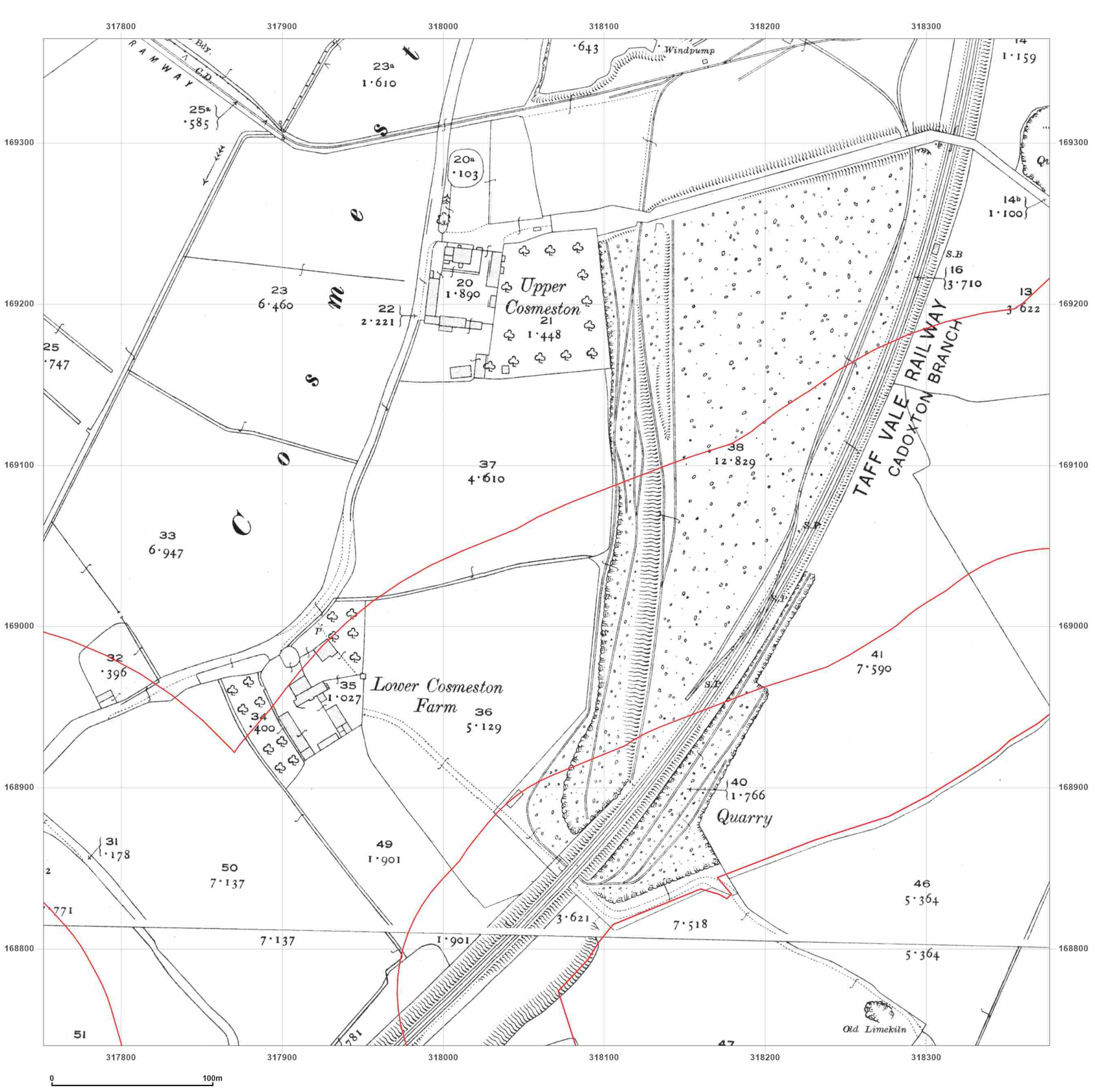
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Site Details:

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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_3
Grid Ref: 318064, 169052

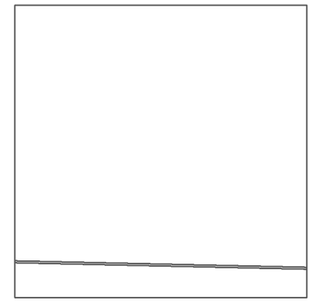
Map Name: County Series

Map date: **1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

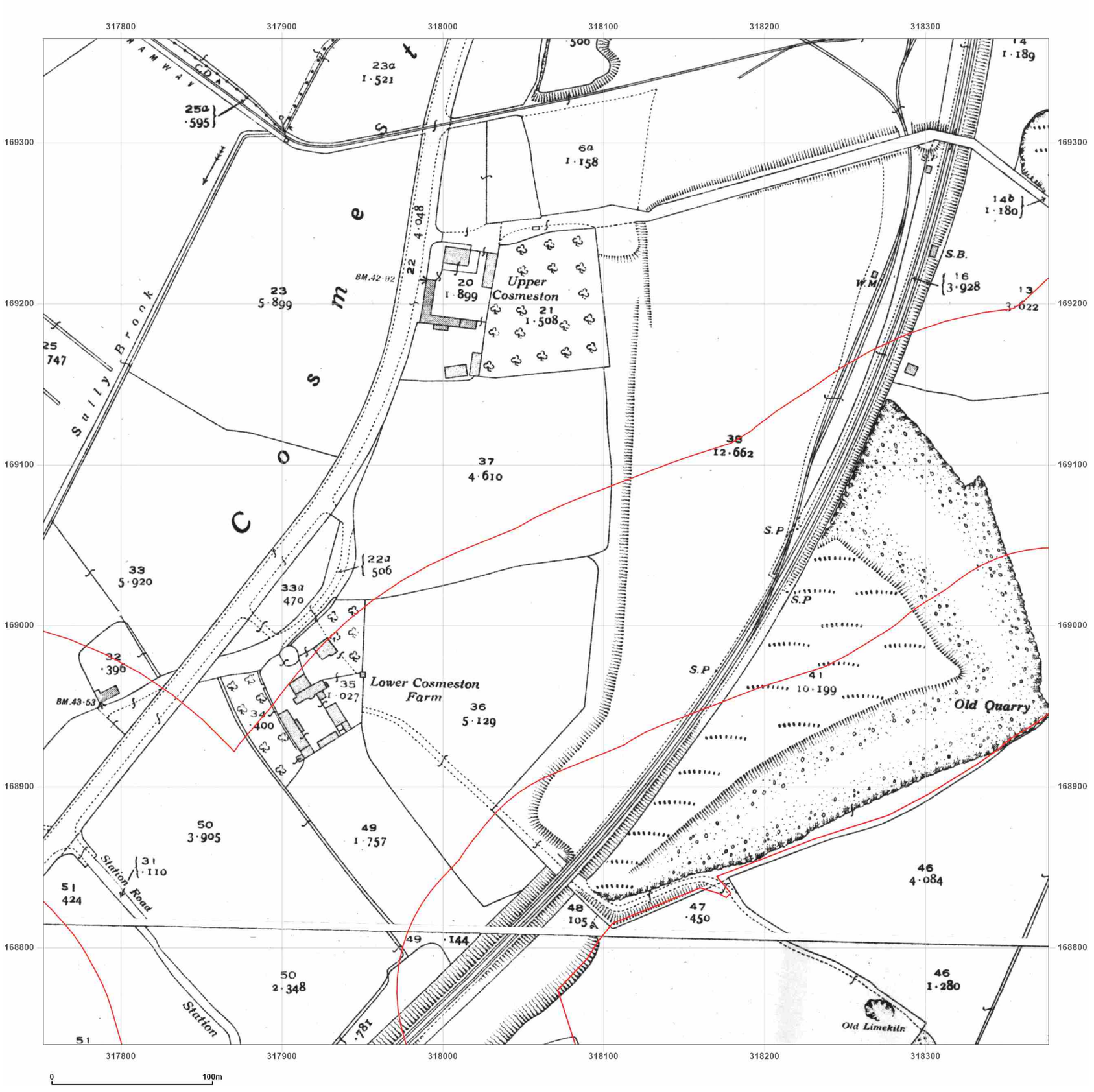
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_3
Grid Ref: 318064, 169052

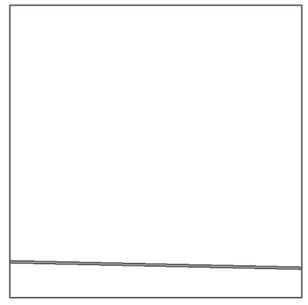
Map Name: County Series

Map date: **1940**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_3
Grid Ref: 318064, 169052

Map Name: National Grid

Map date: **1968-1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1968
Revised 1968
Edition N/A
Copyright 1968
Levelled 1961

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

Surveyed 1969
Revised 1969
Edition N/A
Copyright 1970
Levelled 1961

Surveyed 1969
Revised 1969
Edition N/A
Copyright 1969
Levelled 1961

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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_3
Grid Ref: 318064, 169052

Map Name: National Grid

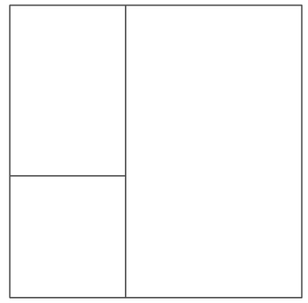
Map date: **1989-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1985
Revised 1989
Edition N/A
Copyright 1989
Levelled 1985

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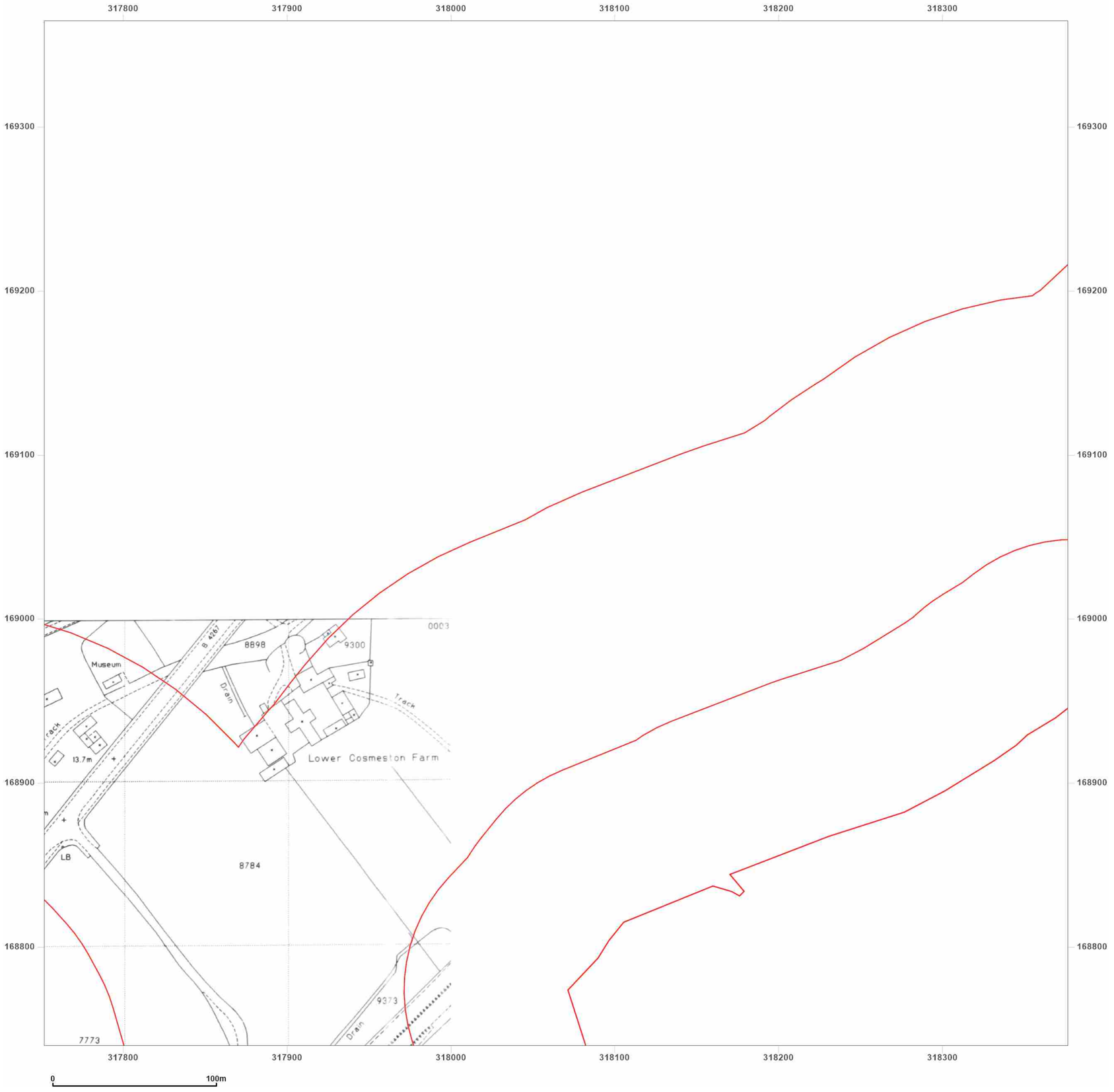
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Site Details:

Combined areas

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Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_3_3
Grid Ref: 318064, 169052

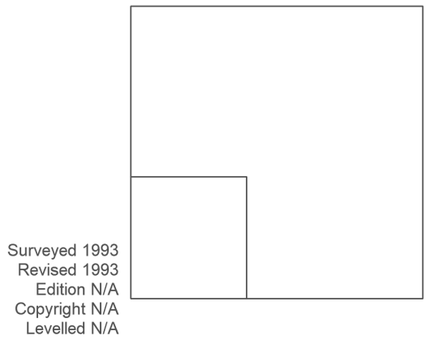
Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Groundsure INSIGHTS

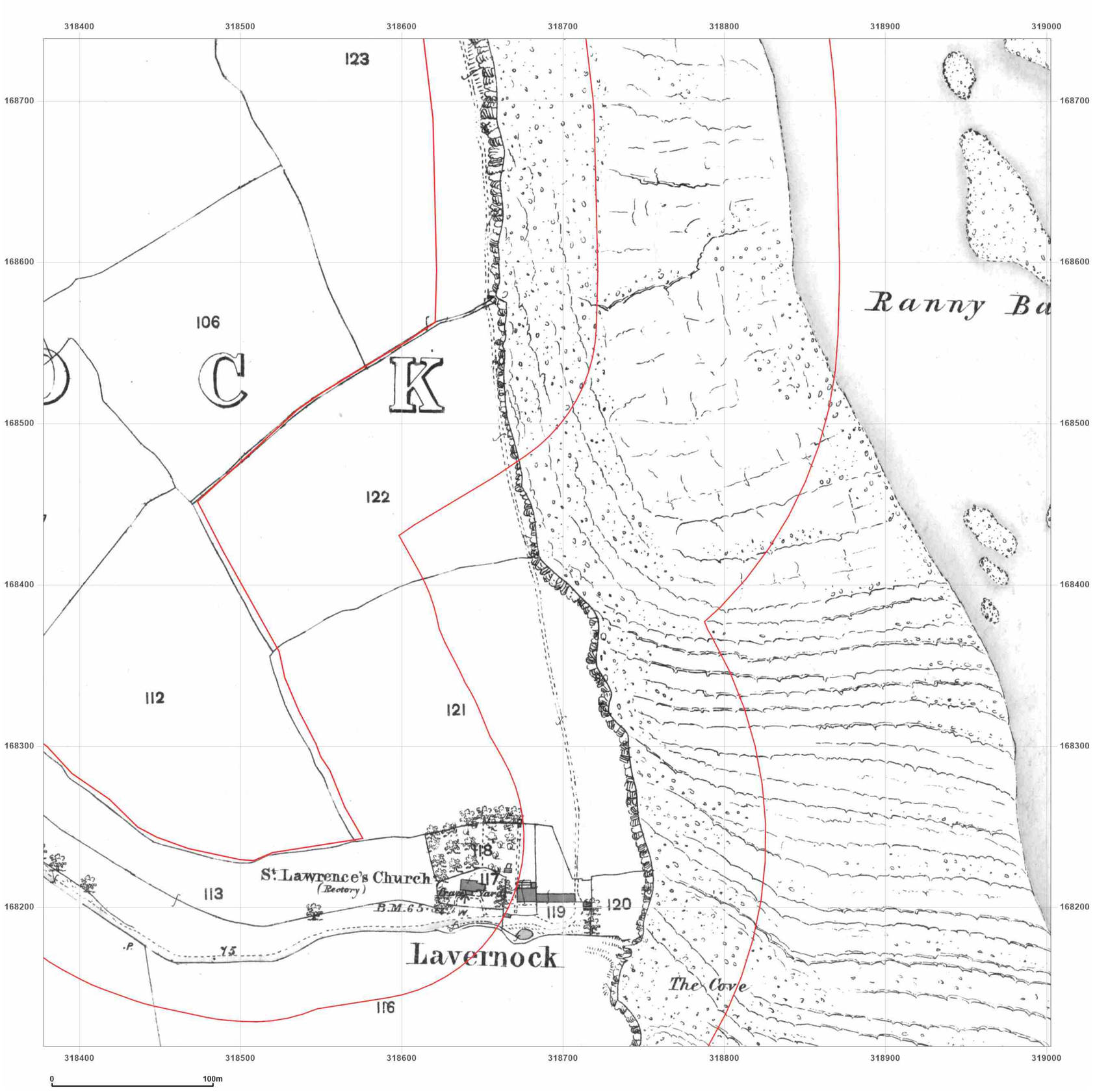
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Production date: 25 June 2025

Map legend available at:
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_2
Grid Ref: 318690, 168426

Map Name: County Series

Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

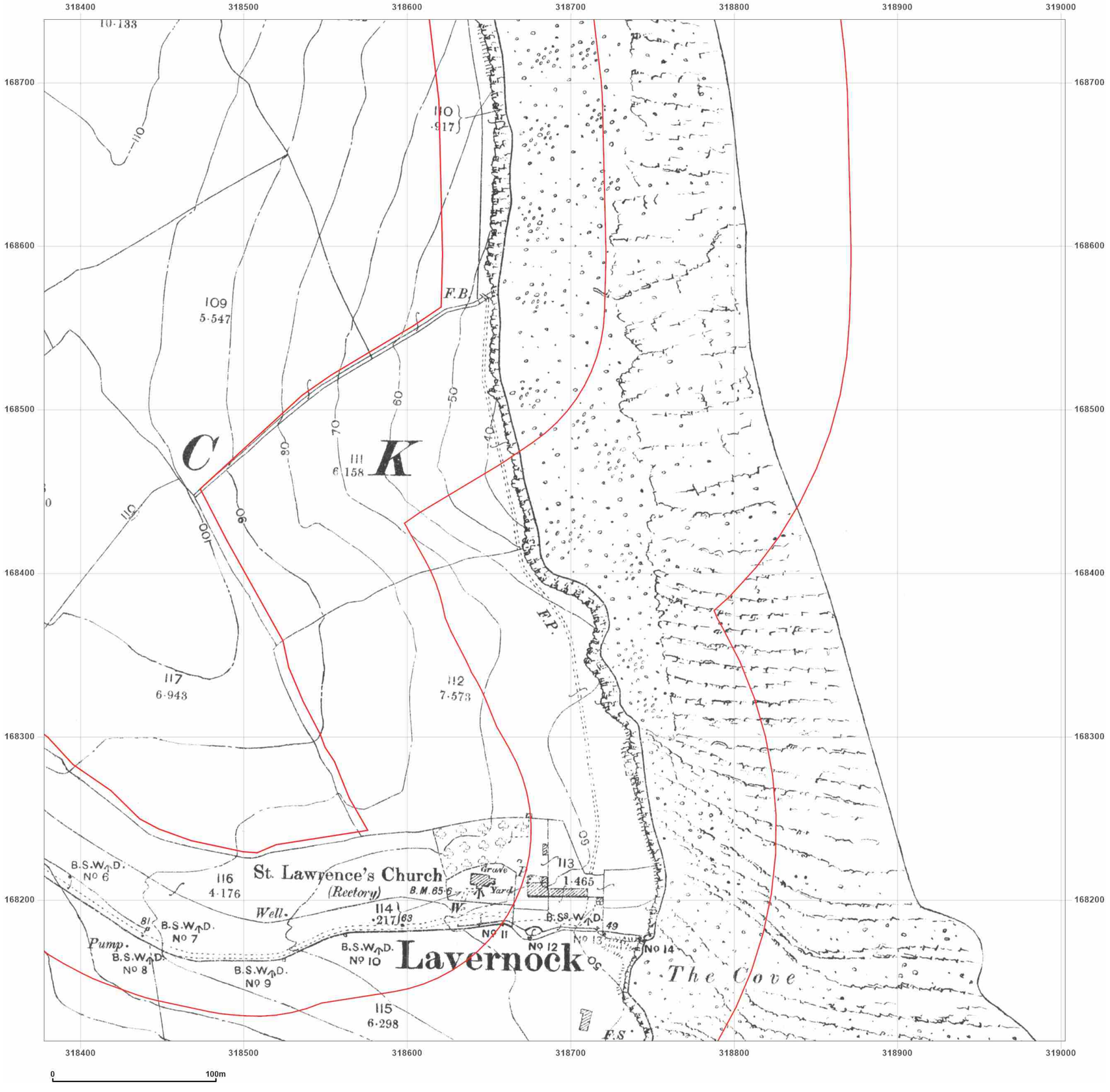
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Production date: 25 June 2025

Map legend available at:
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_2
Grid Ref: 318690, 168426

Map Name: County Series

Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

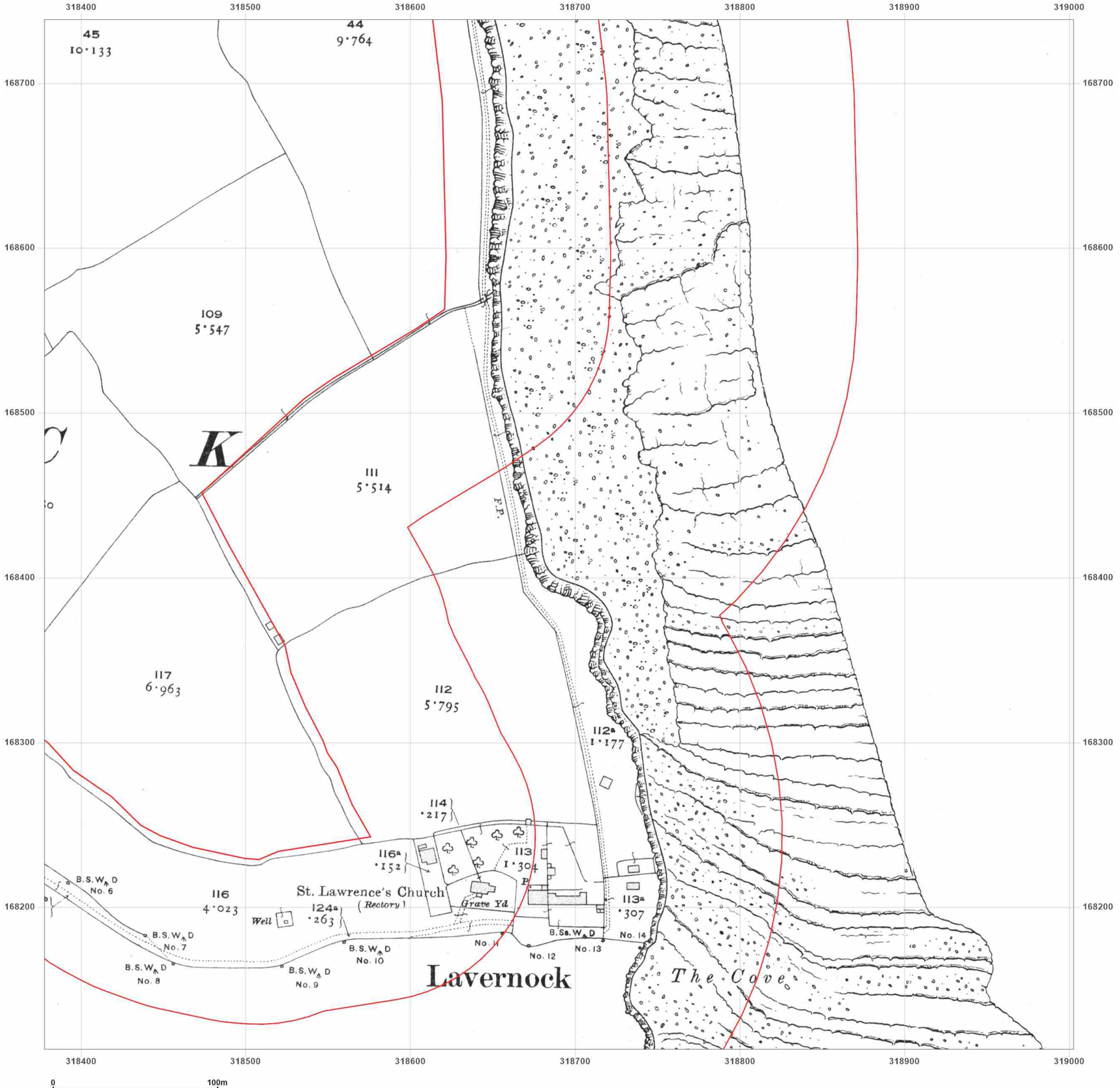
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_2
Grid Ref: 318690, 168426

Map Name: County Series

Map date: **1920**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

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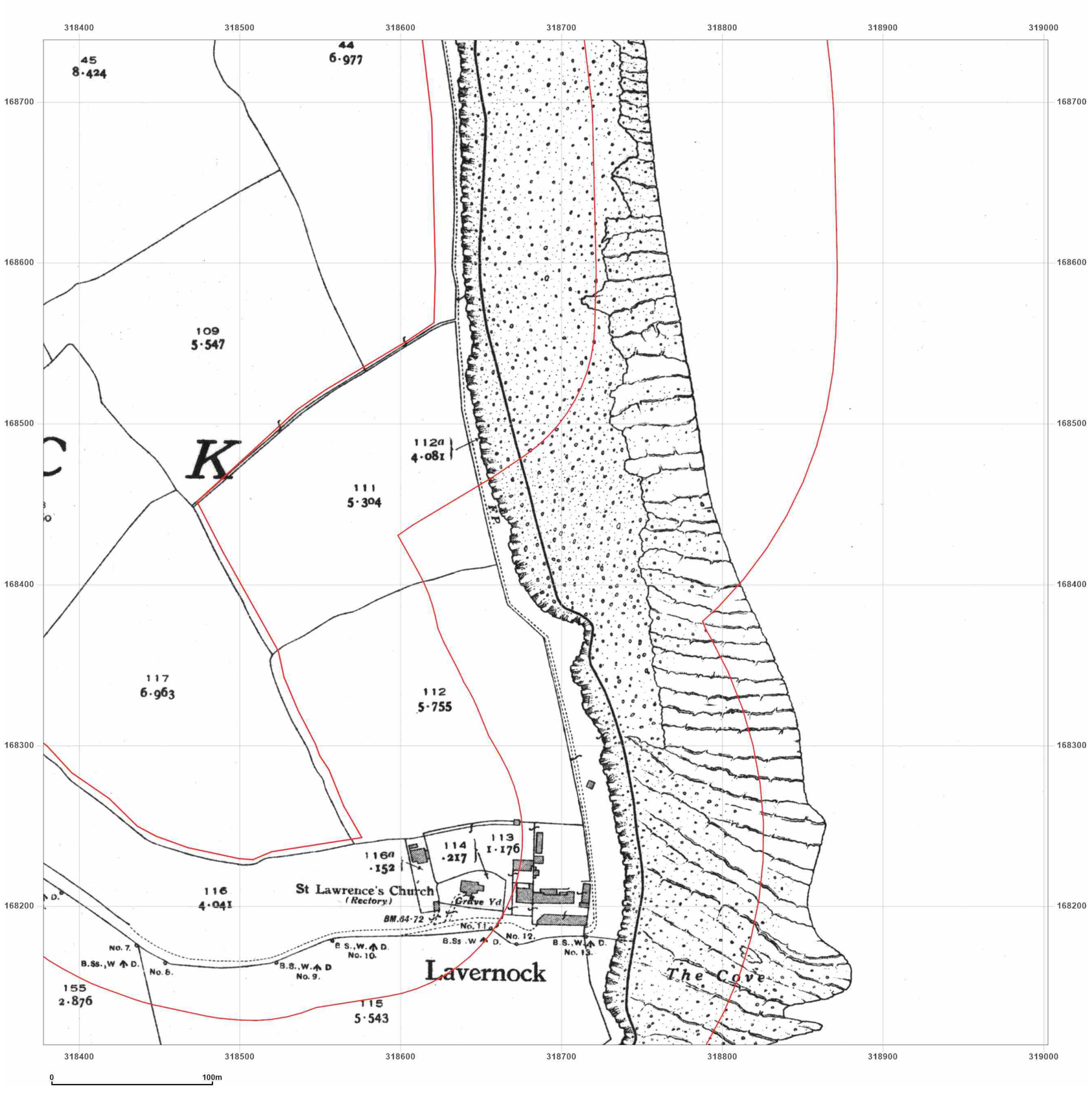
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_2
Grid Ref: 318690, 168426

Map Name: County Series

Map date: **1940**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

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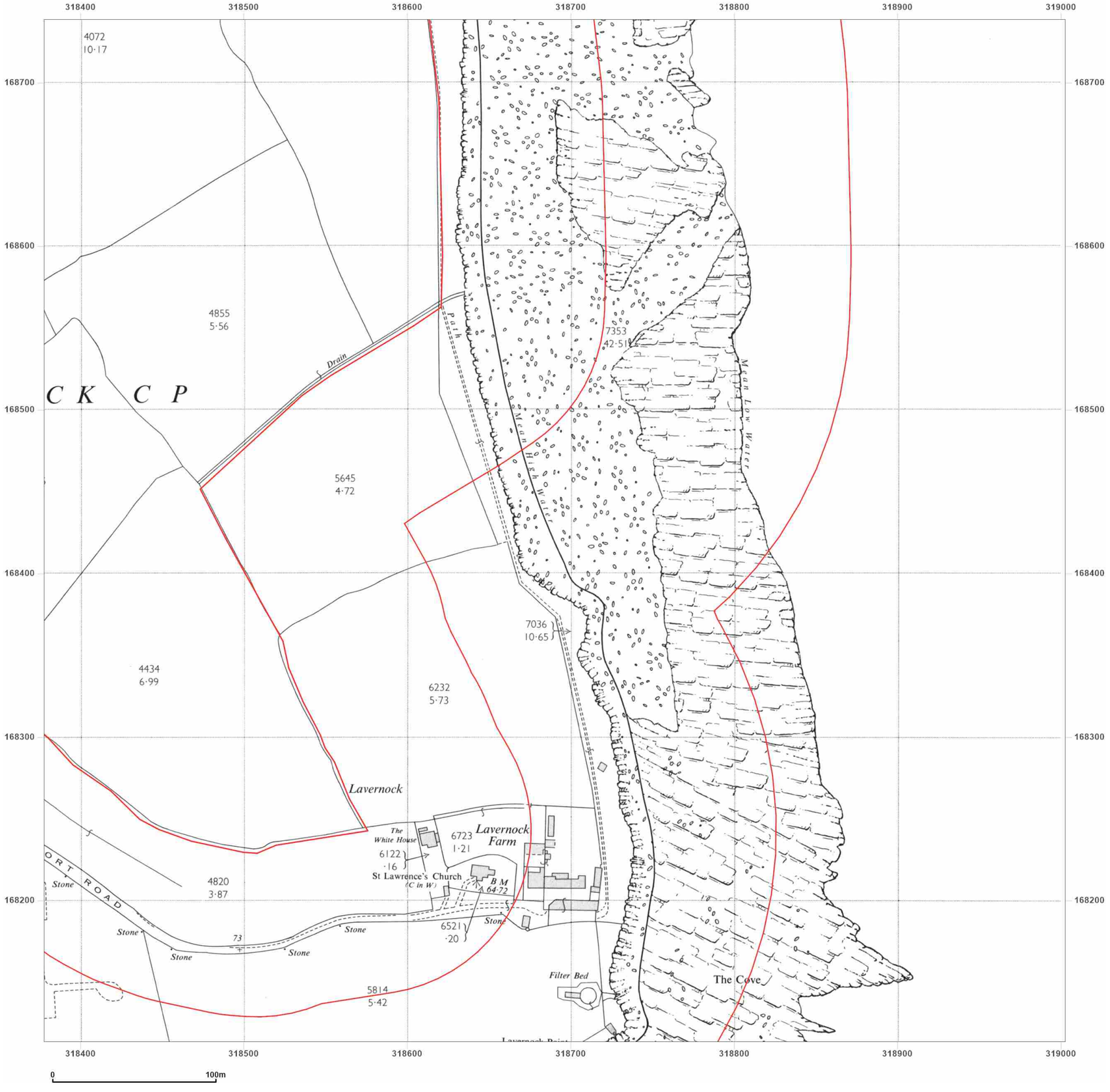
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_2
Grid Ref: 318690, 168426

Map Name: National Grid

Map date: **1969**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1969
Revised 1969
Edition N/A
Copyright 1969
Levelled 1961

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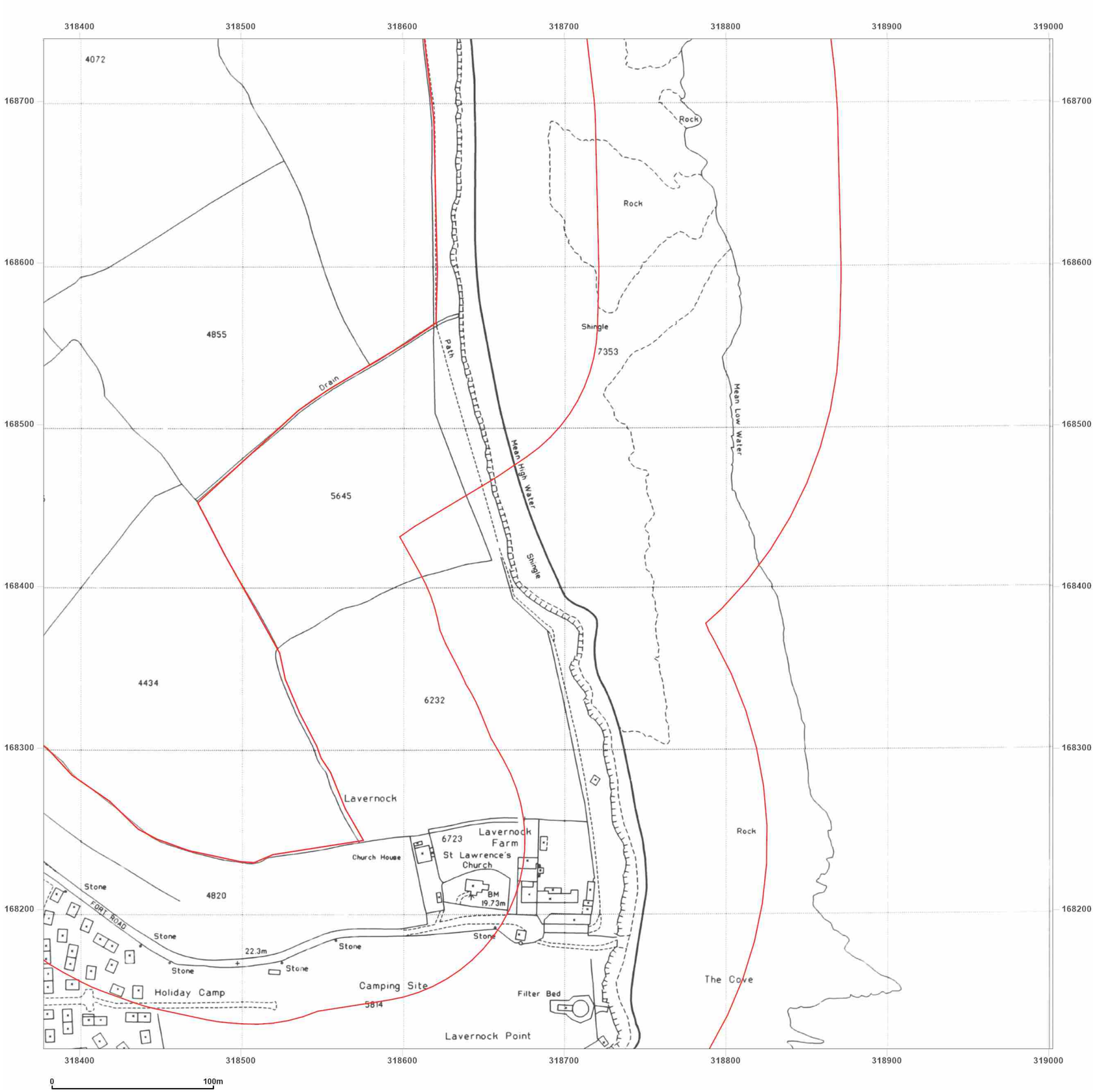
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_2
Grid Ref: 318690, 168426

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

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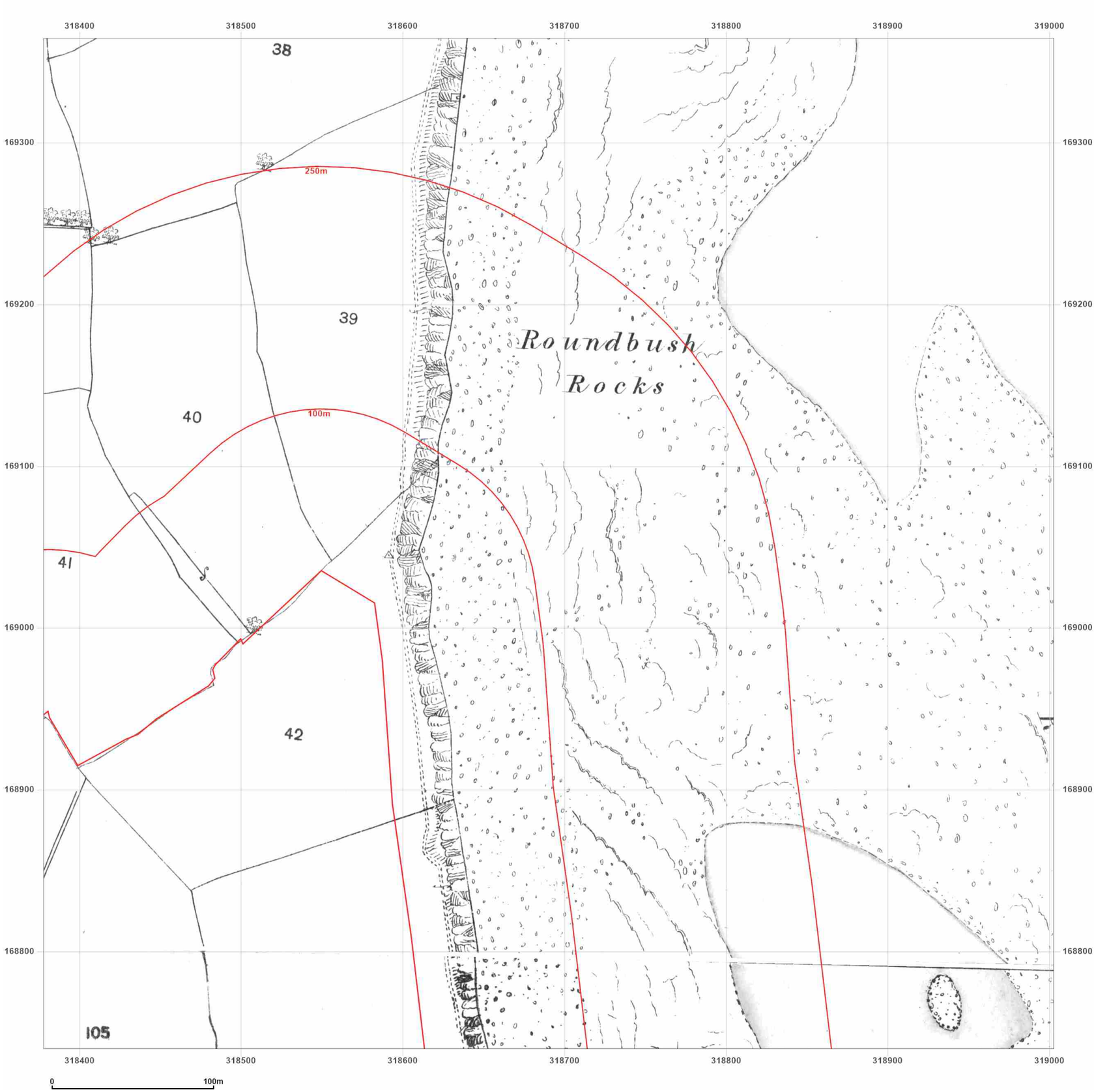
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_3
Grid Ref: 318690, 169052

Map Name: County Series

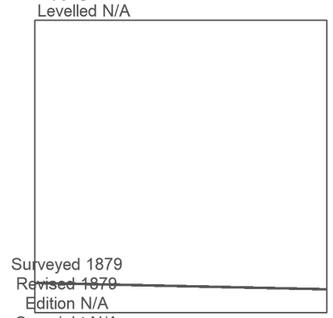
Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
Levelled N/A

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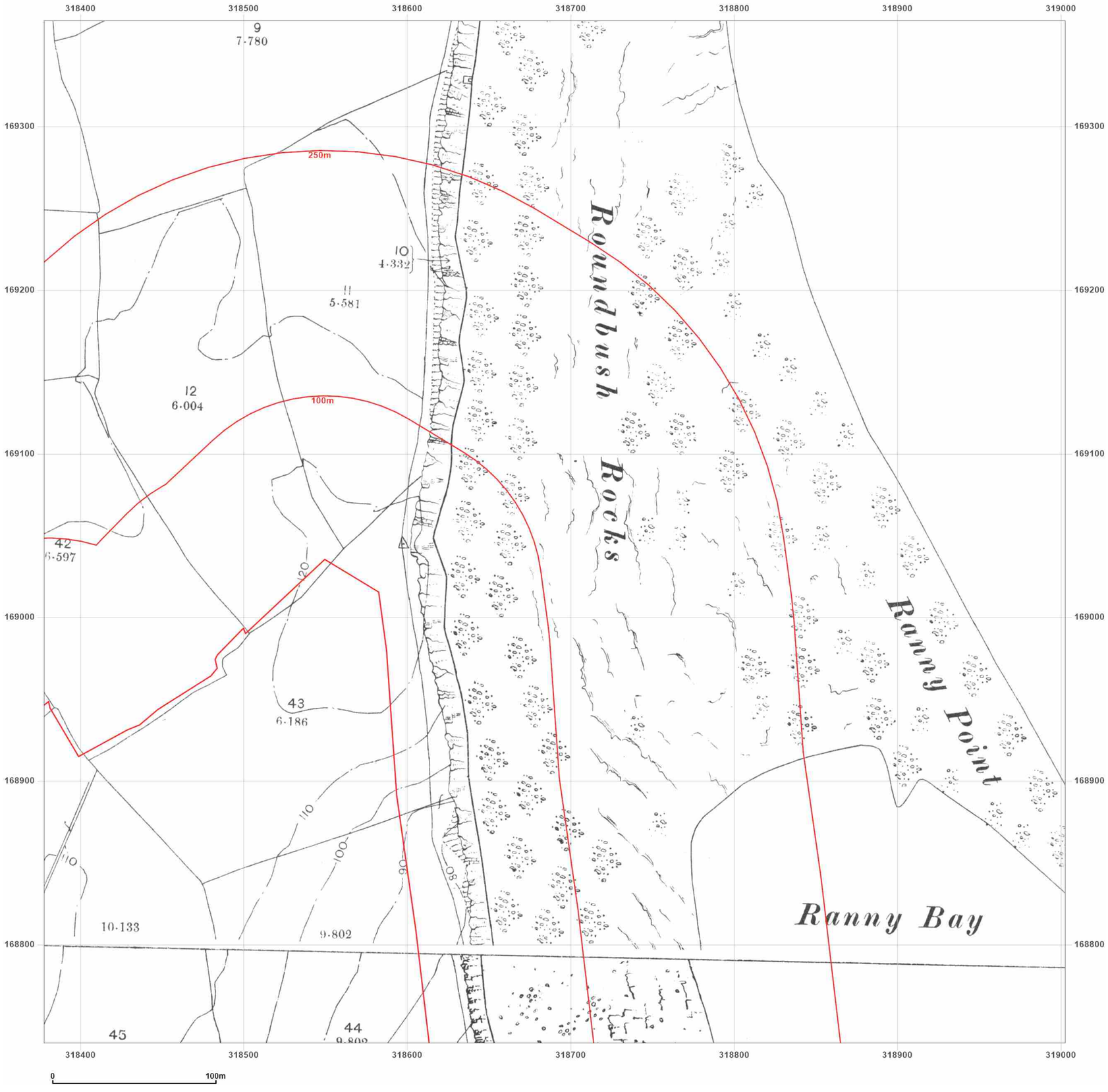
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_3
Grid Ref: 318690, 169052

Map Name: County Series

Map date: **1900**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1900
Revised 1900
Edition N/A
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_3
Grid Ref: 318690, 169052

Map Name: County Series

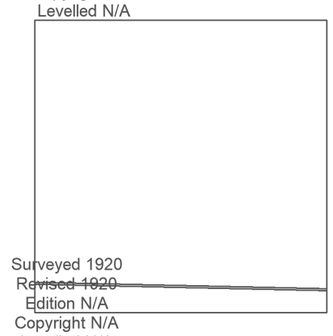
Map date: **1920**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

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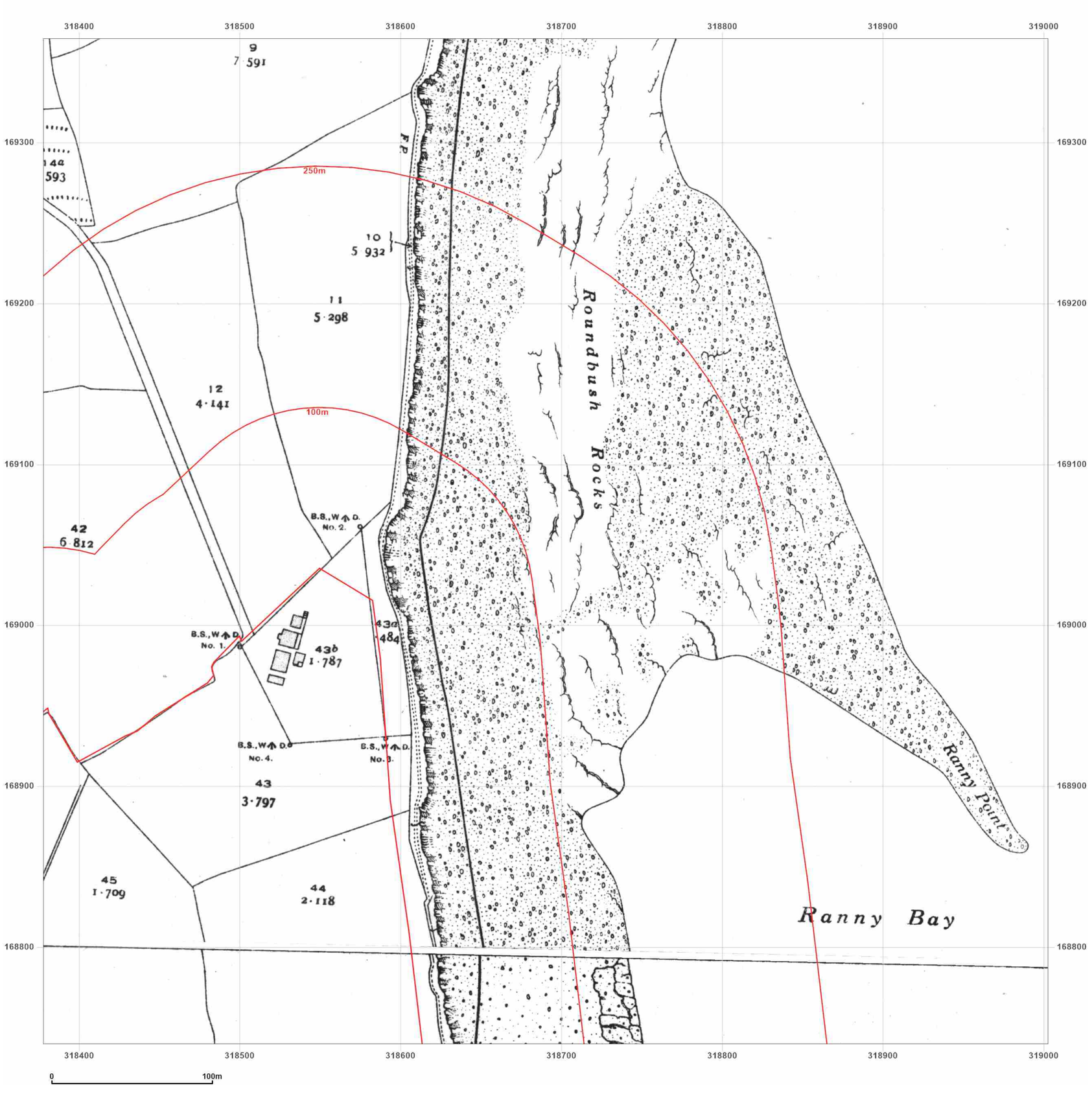
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wsp

Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_LS_4_3
Grid Ref: 318690, 169052

Map Name: County Series

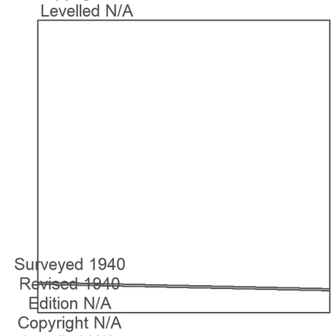
Map date: **1940**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1940
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

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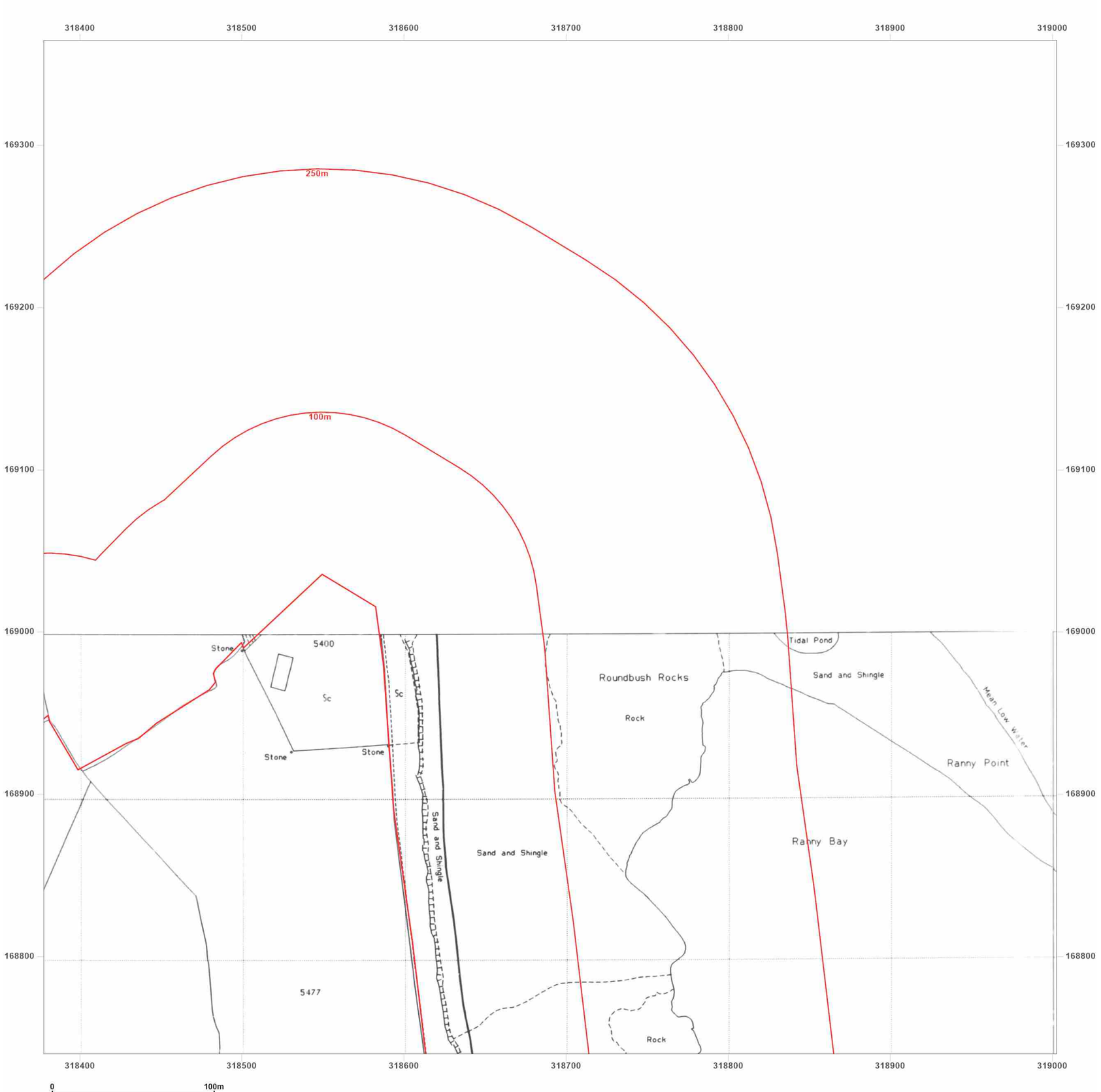
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Site Details:

Combined areas

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Grid Ref: 318690, 169052

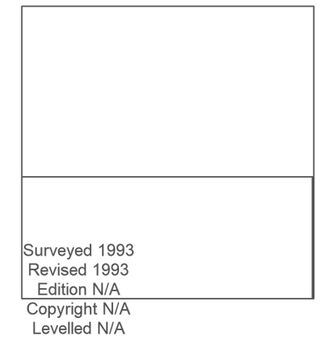
Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

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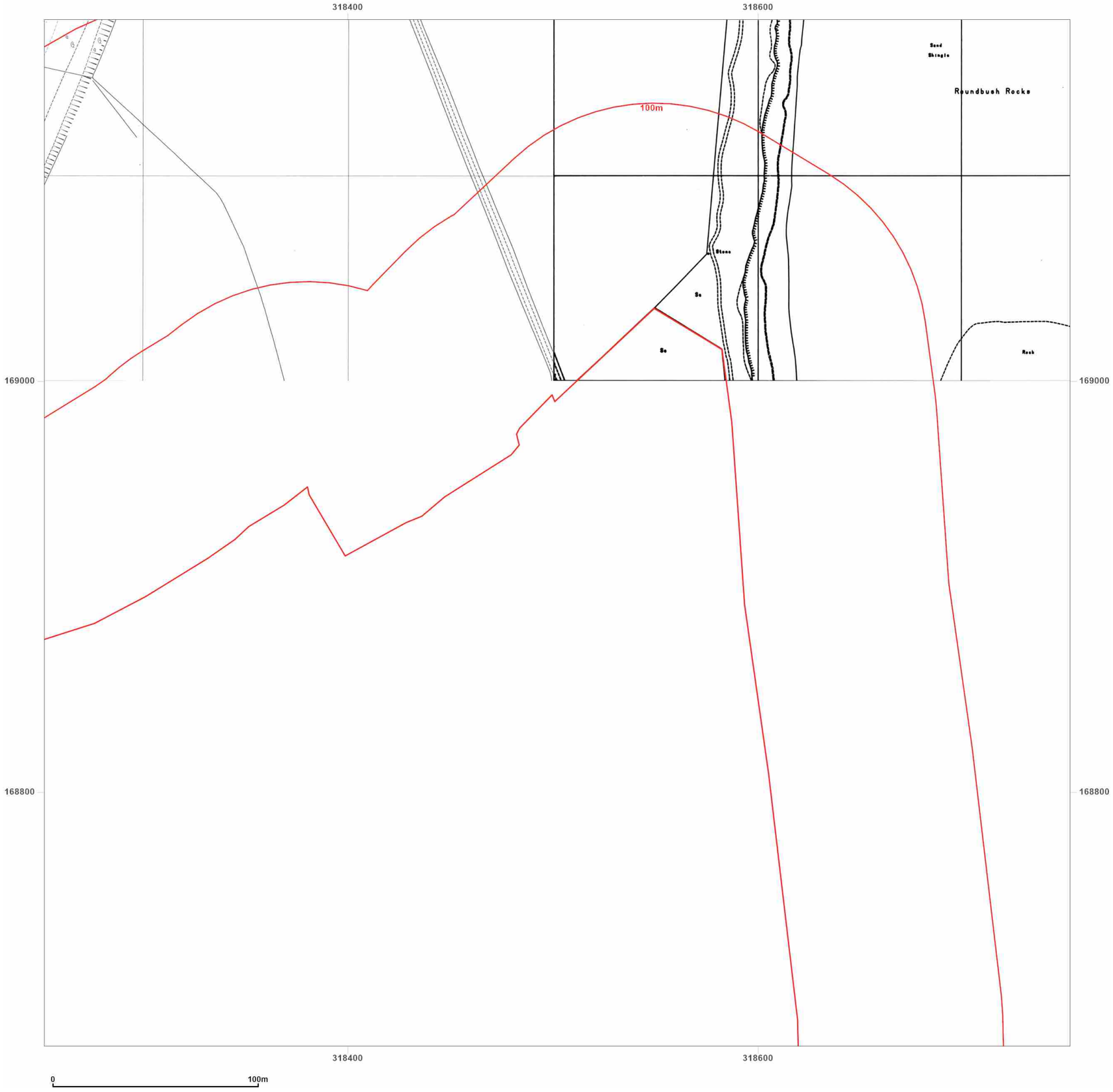
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_1250_4_3
Grid Ref: 318502, 168926

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1986
Revised 1986
Edition N/A
Copyright 1987
Levelled 1985

Surveyed 1968
Revised 1969
Edition N/A
Copyright 1992
Levelled N/A

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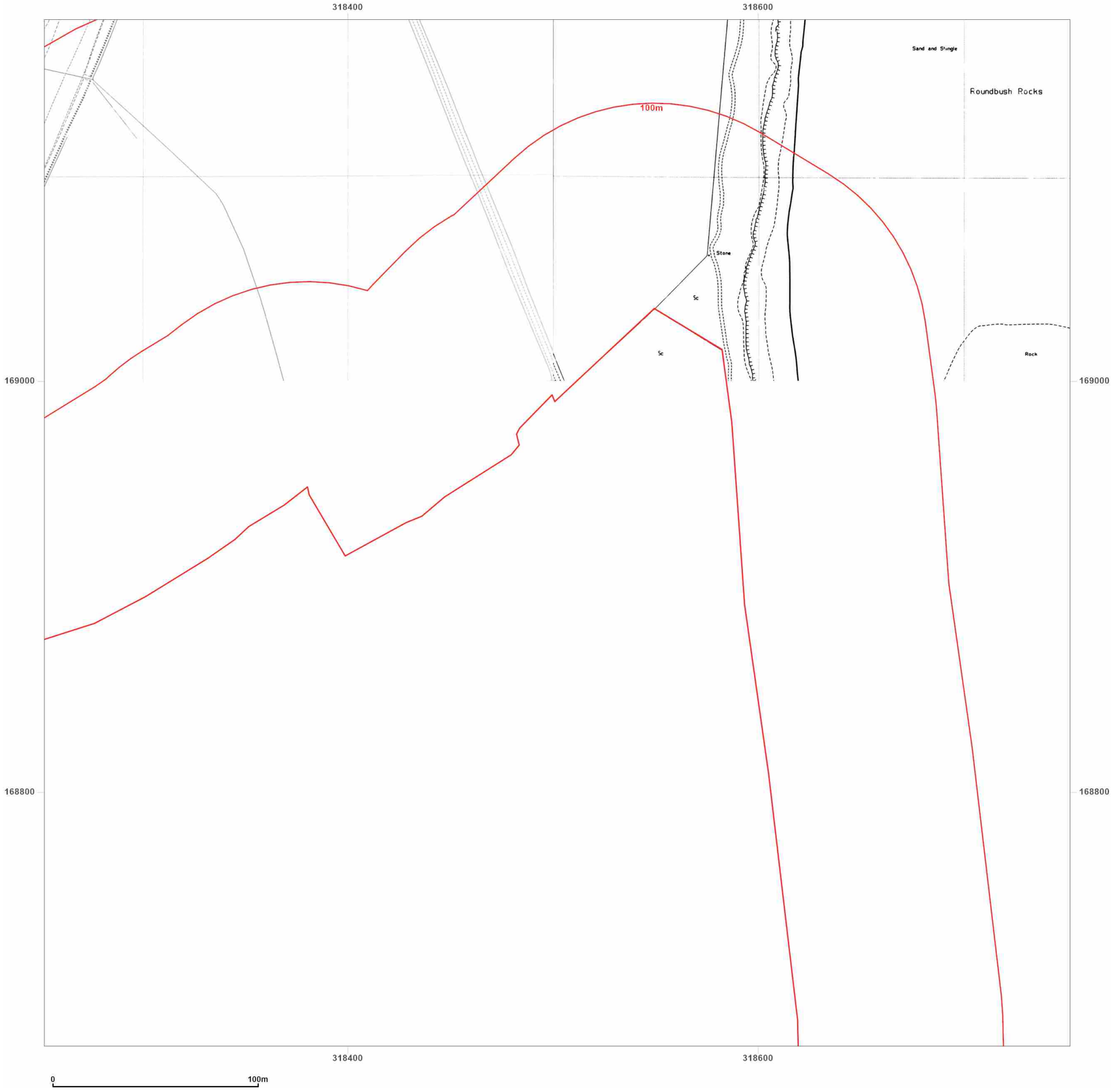
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_1250_4_3
Grid Ref: 318502, 168926

Map Name: National Grid

Map date: **1993**

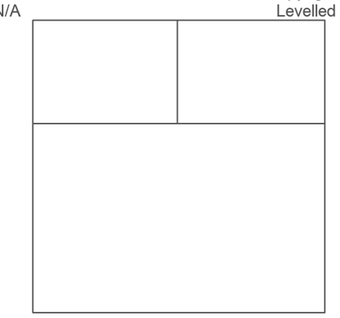
Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



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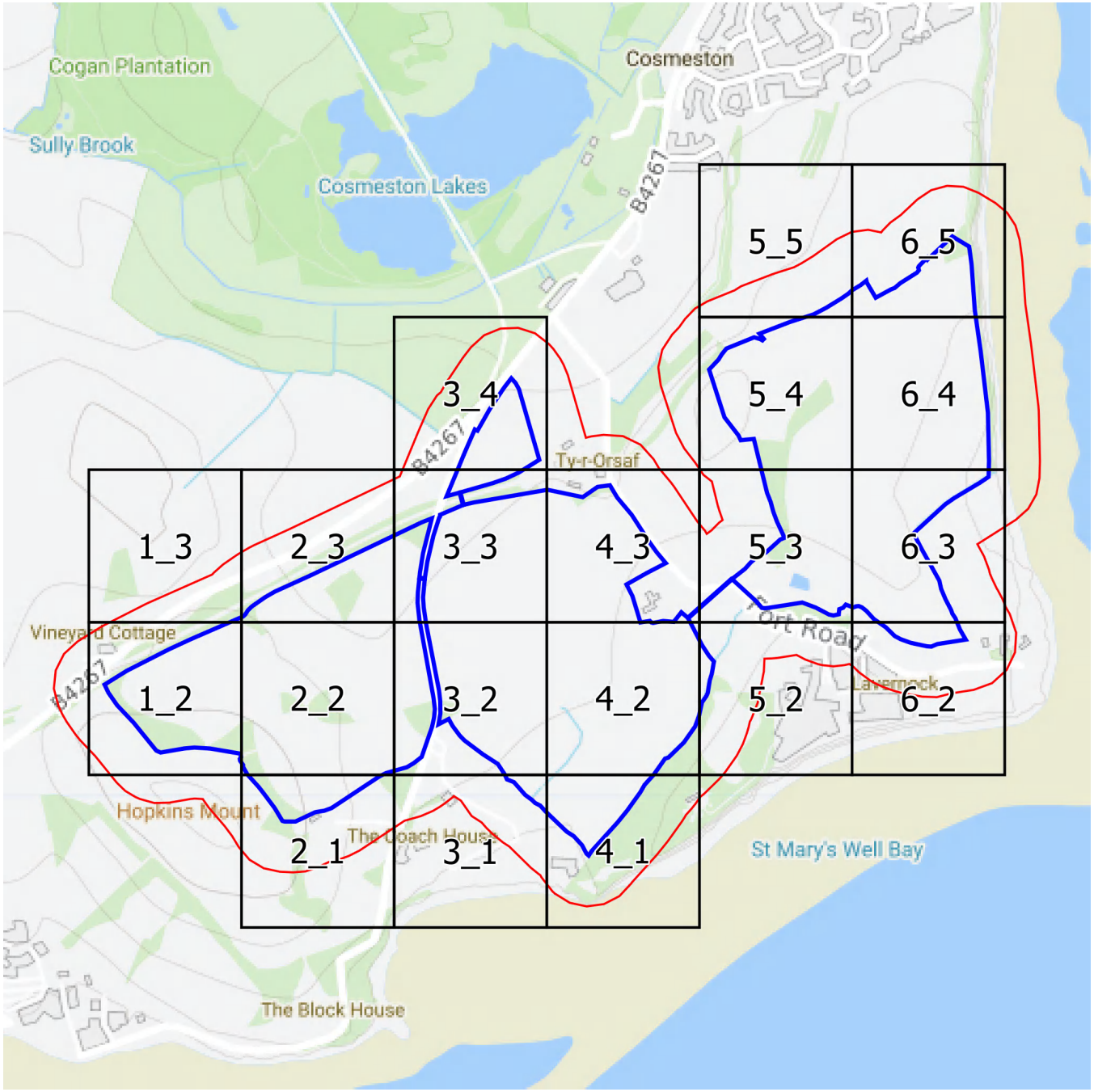
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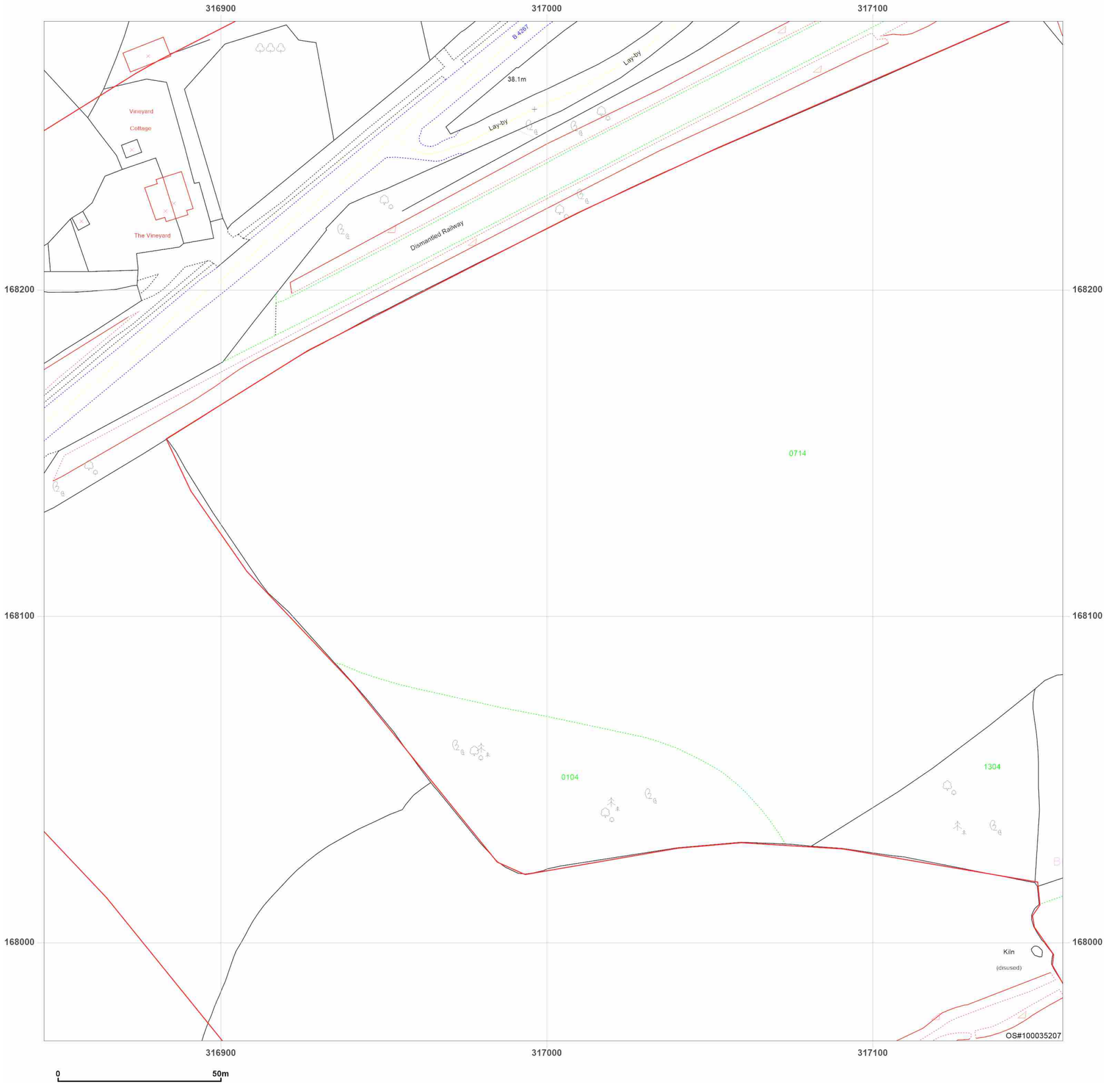
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Groundsure INSIGHTS

Landline Scale Grid Index

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_1_2
Grid Ref: 317002, 168126

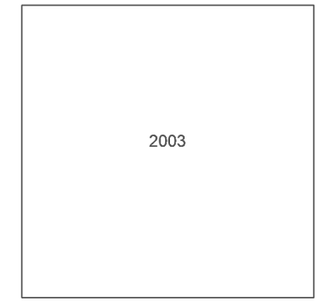
Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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Groundsure INSIGHTS

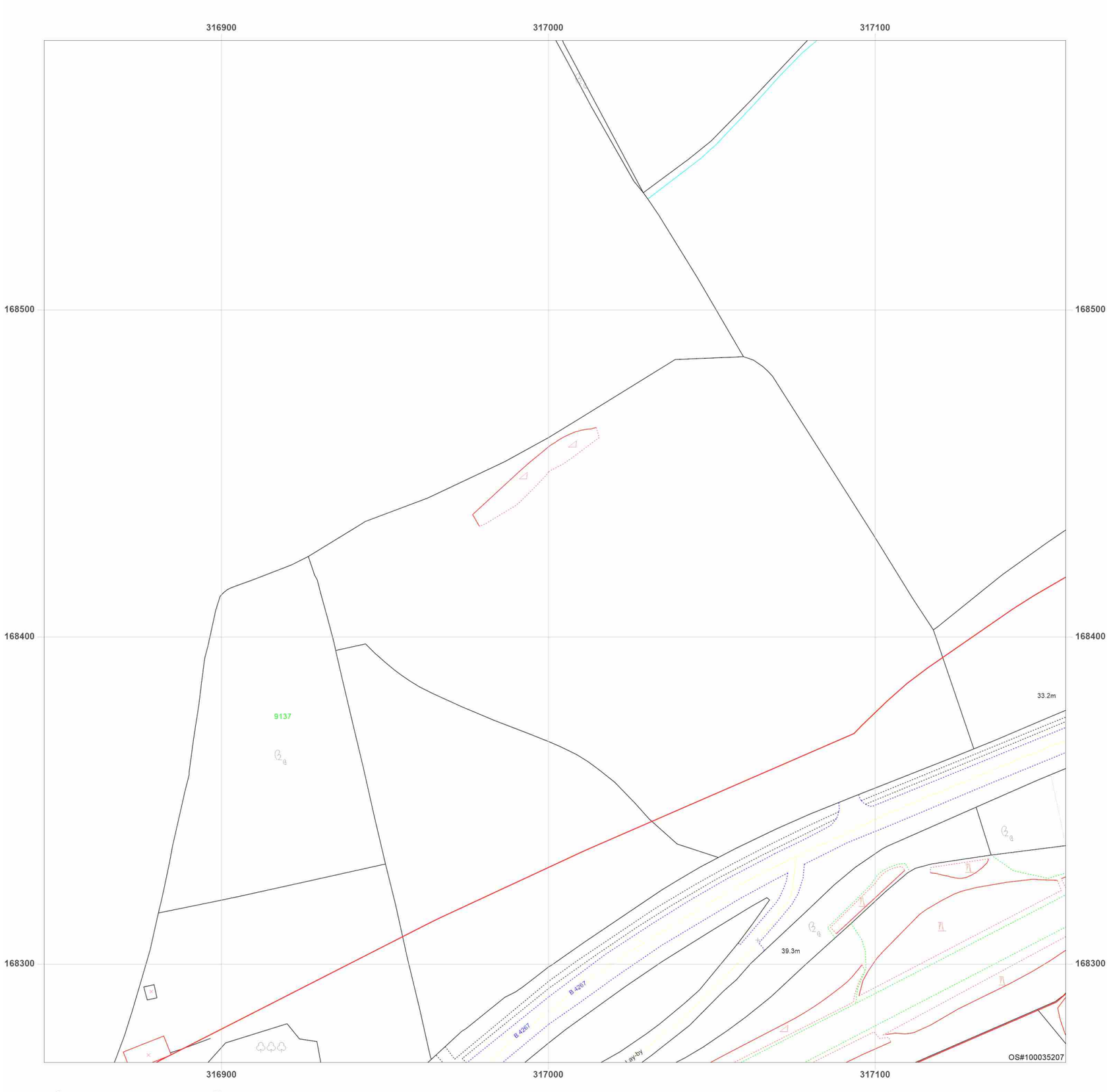
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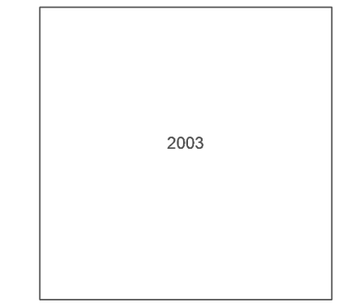
Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_1_3
Grid Ref: 317002, 168426

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_2_1
Grid Ref: 317302, 167826

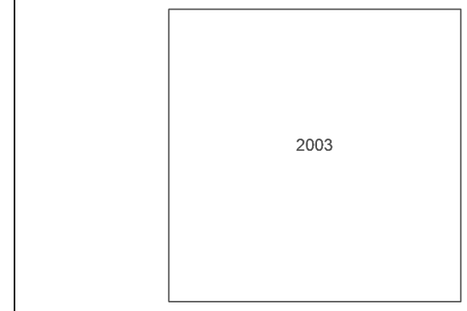
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Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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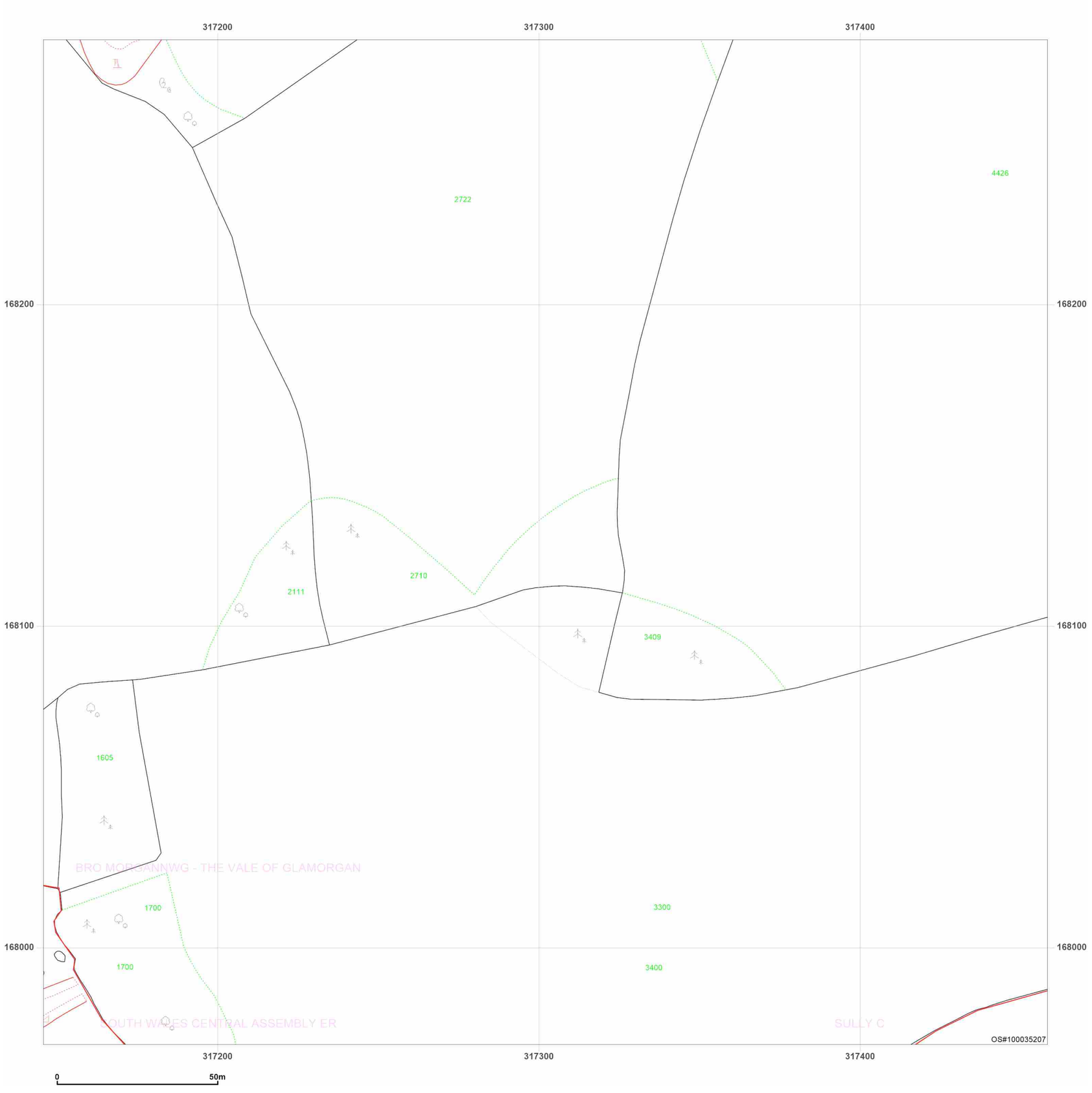
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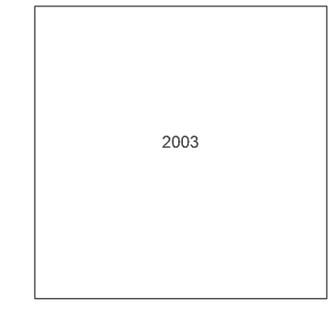
Site Details:

Combined areas

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Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_2_2
Grid Ref: 317302, 168126

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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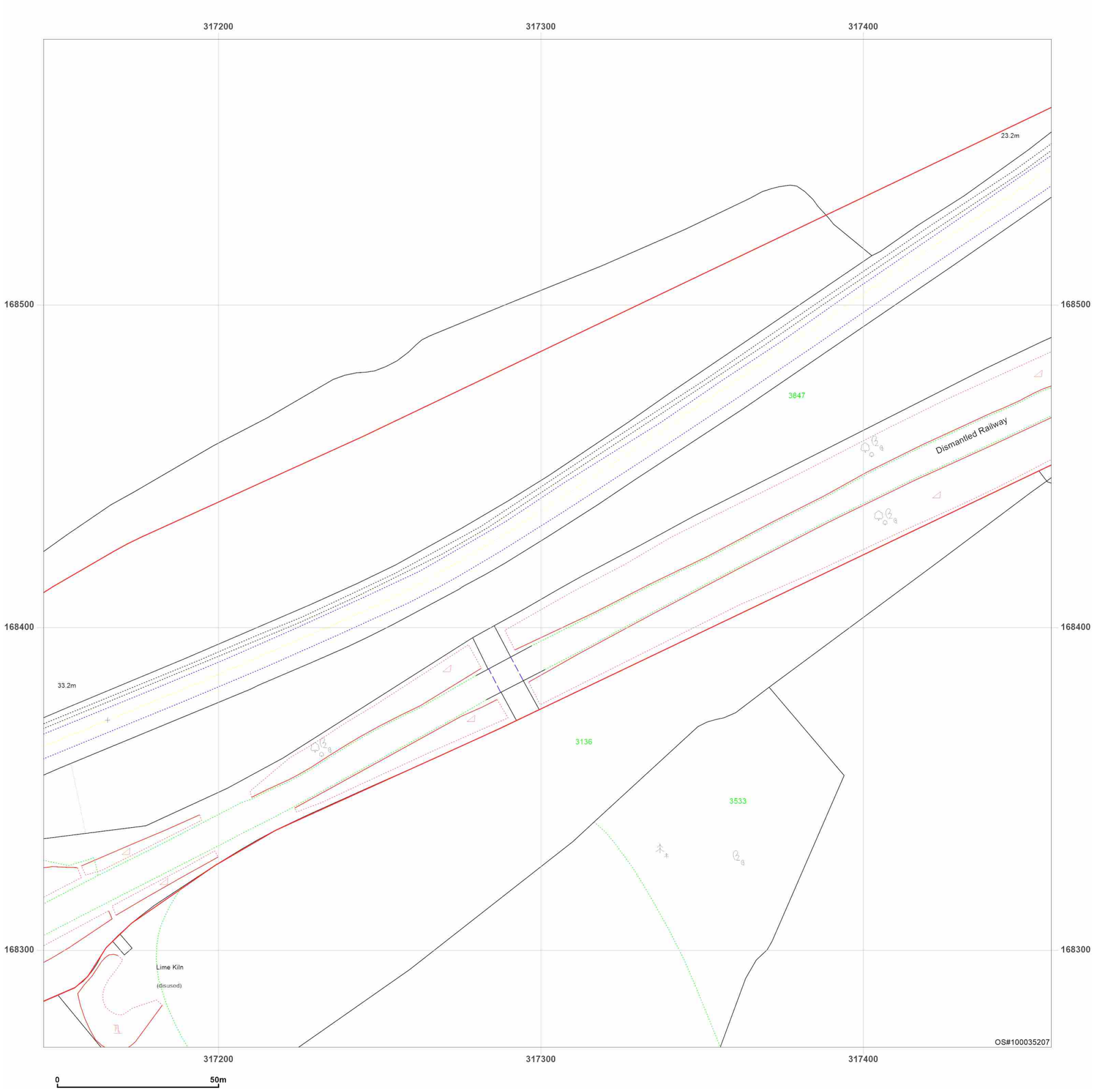
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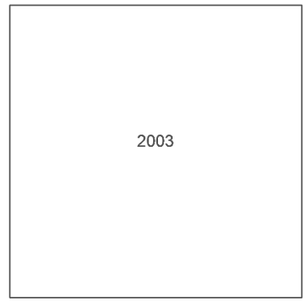
Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_2_3
Grid Ref: 317302, 168426

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_3_1
Grid Ref: 317602, 167826

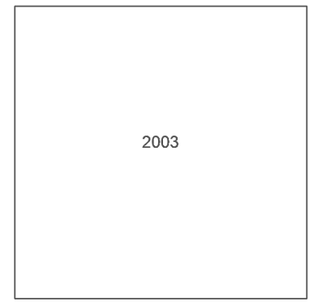
Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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Groundsure INSIGHTS

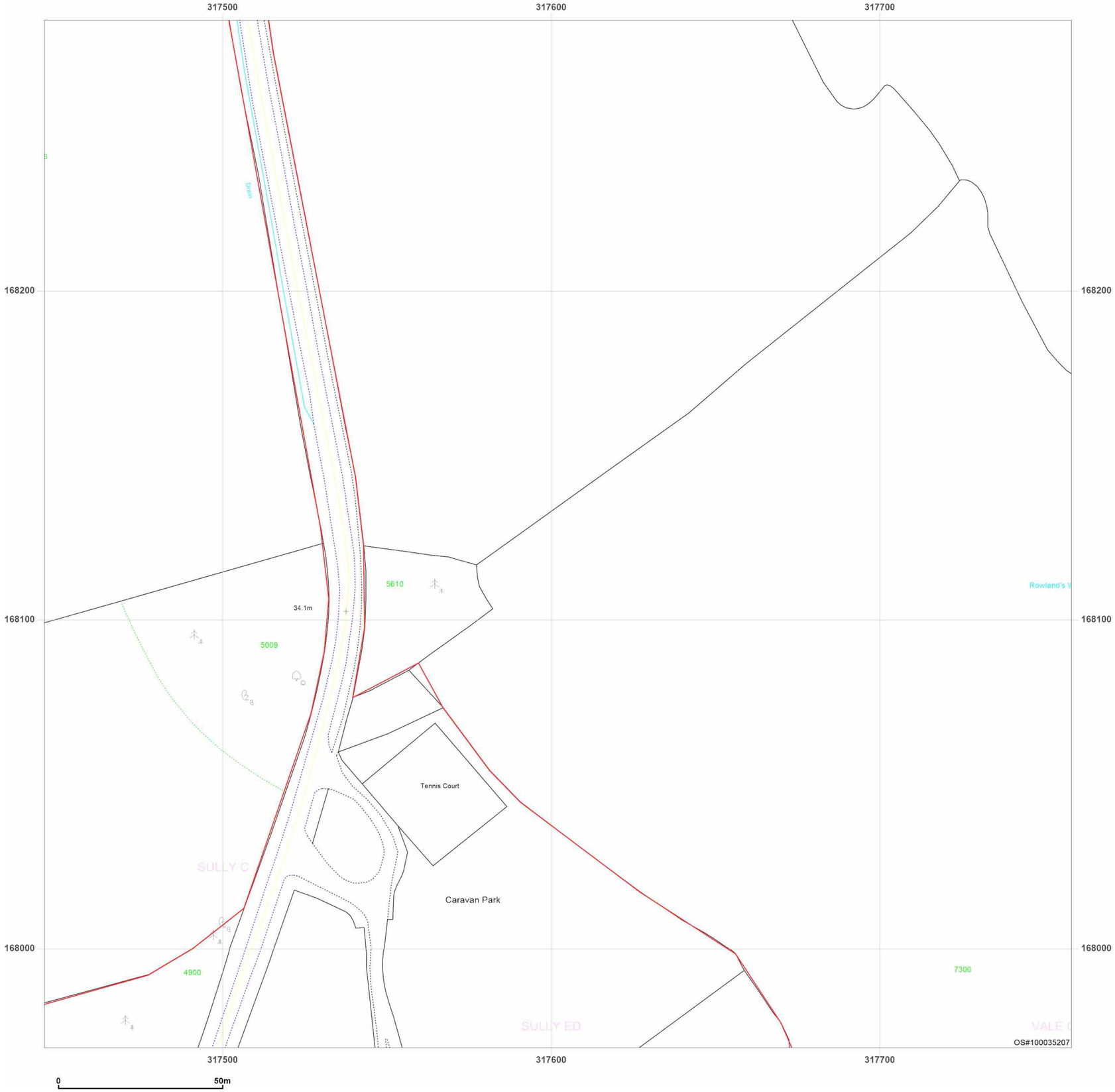
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Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_3_2
Grid Ref: 317602, 168126

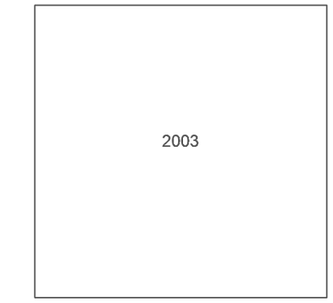
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Map date: **2003**

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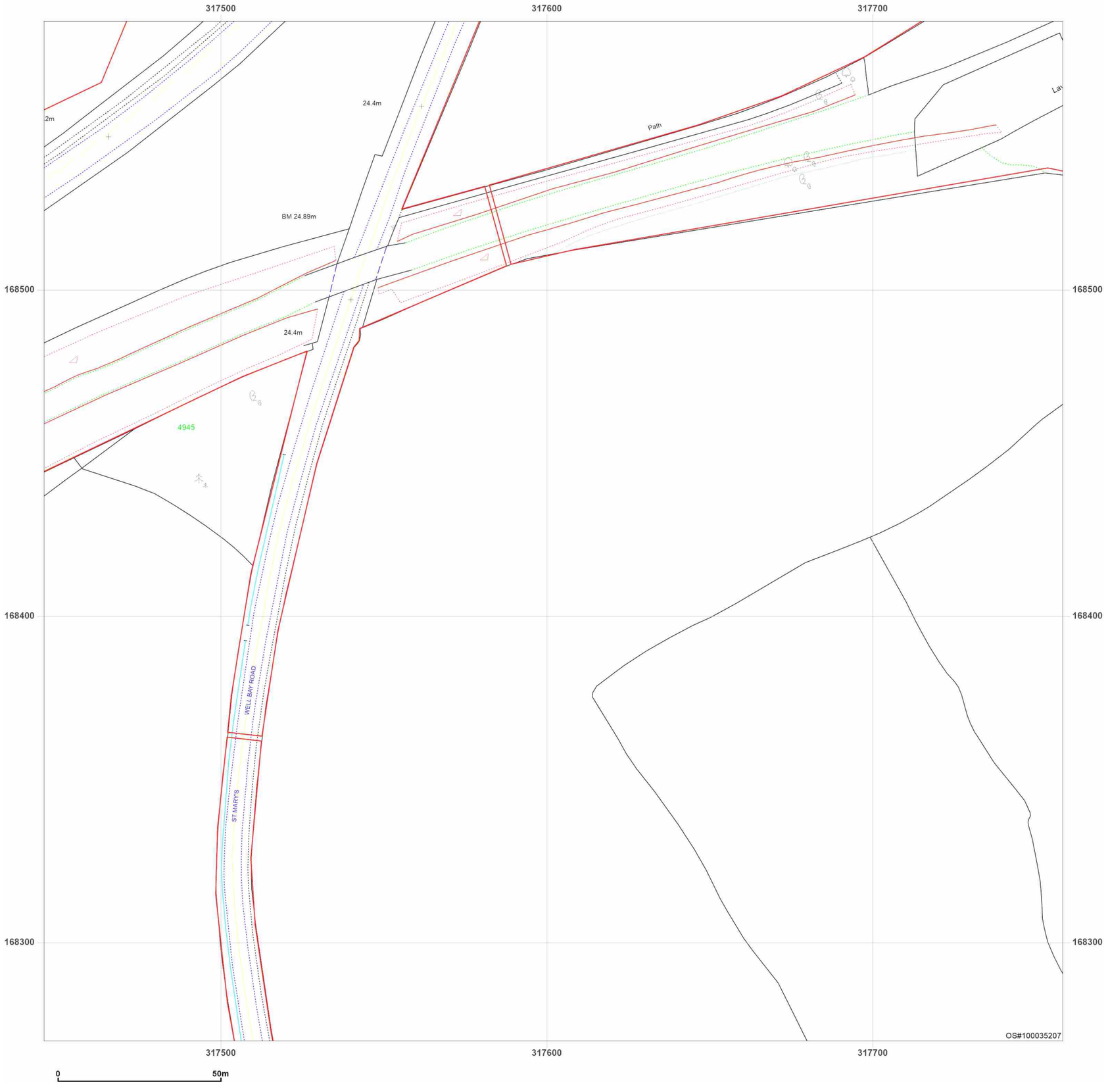
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Site Details:

Combined areas

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Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_3_3
Grid Ref: 317602, 168426

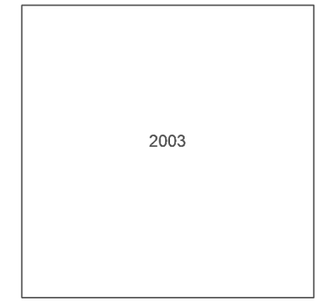
Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

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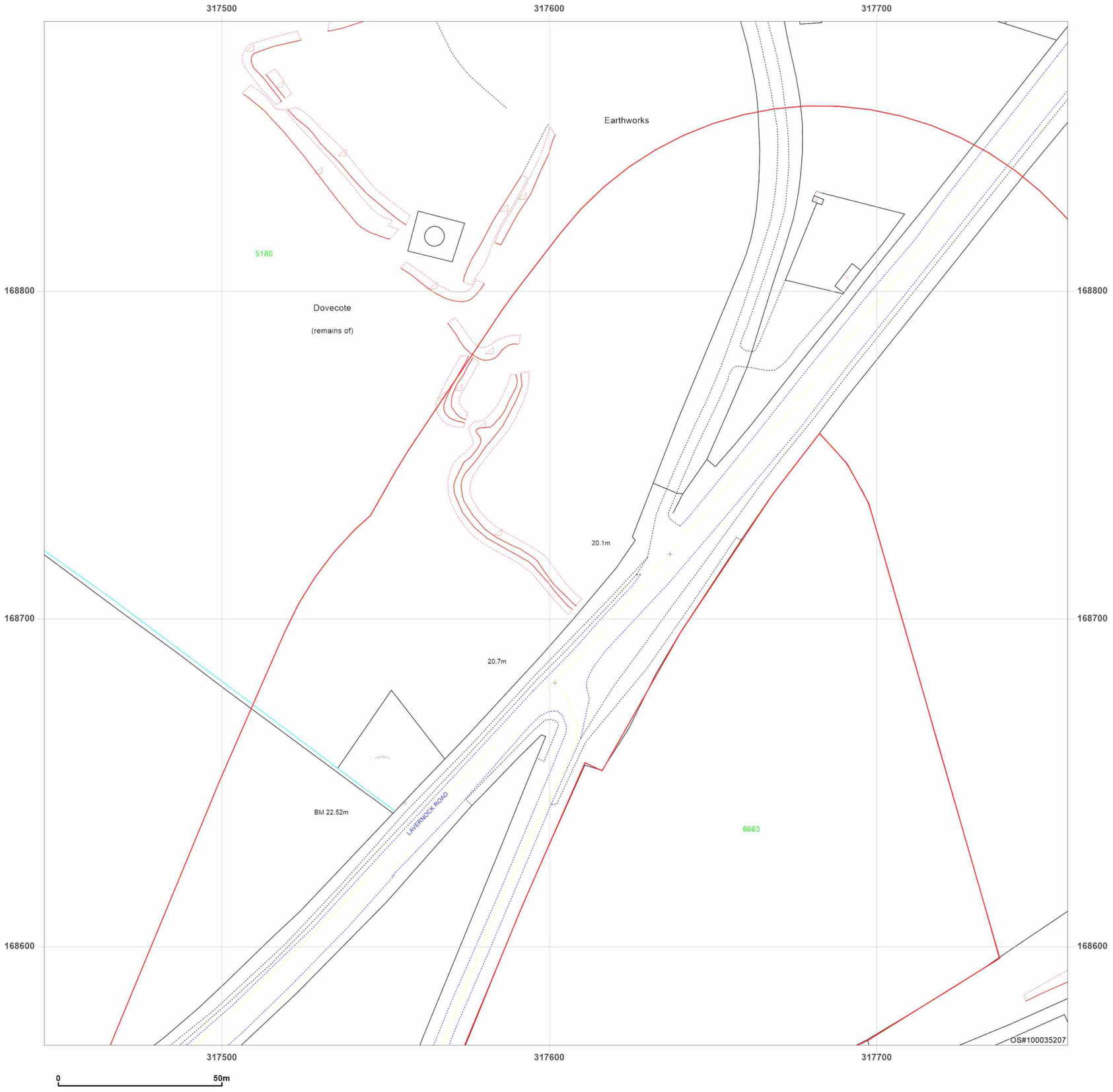
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_3_4
Grid Ref: 317602, 168726

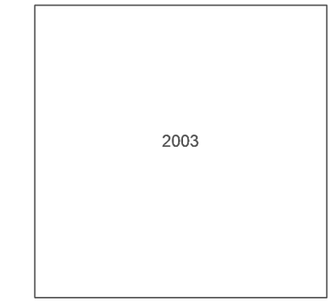
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Scale: 1:1,250

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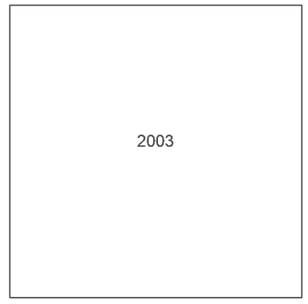
Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_4_1
Grid Ref: 317902, 167826

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
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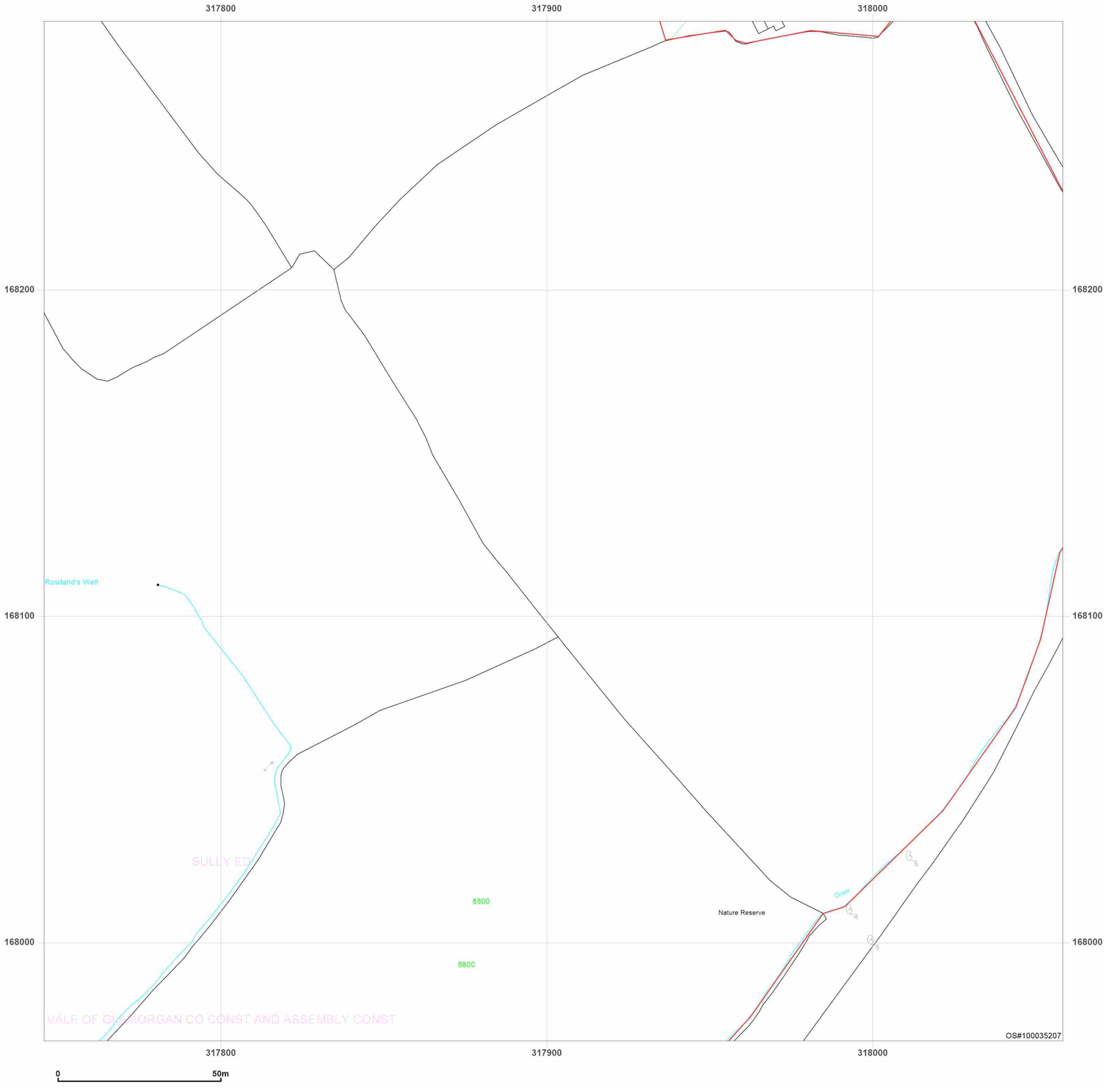
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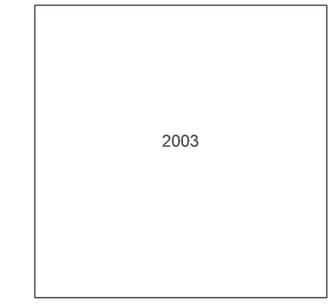
Site Details:

Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_4_2
Grid Ref: 317902, 168126

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_4_3
Grid Ref: 317902, 168426

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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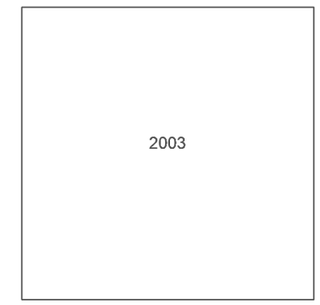
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Combined areas

Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_5_2
Grid Ref: 318202, 168126

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
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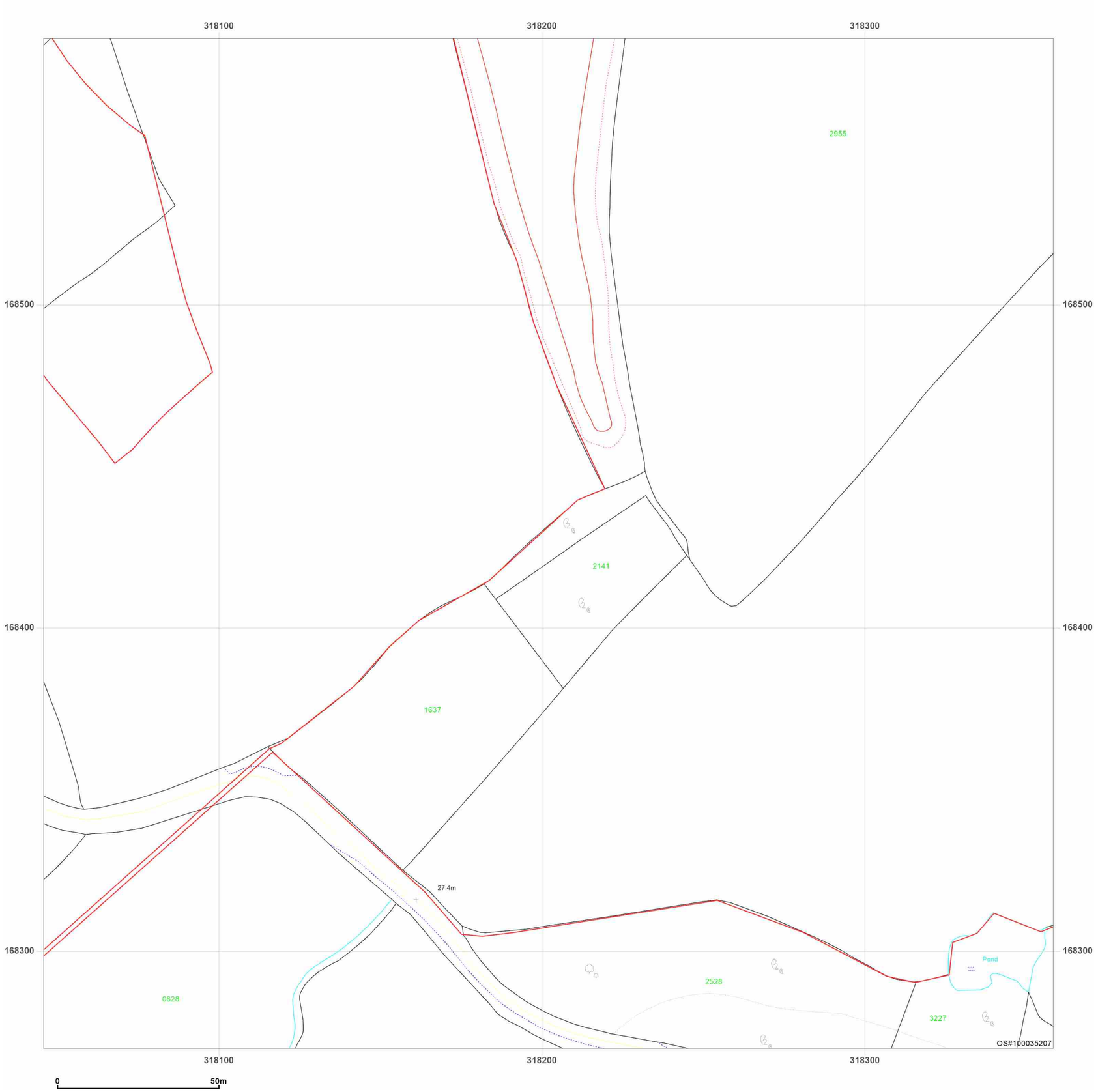
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_5_3
Grid Ref: 318202, 168426

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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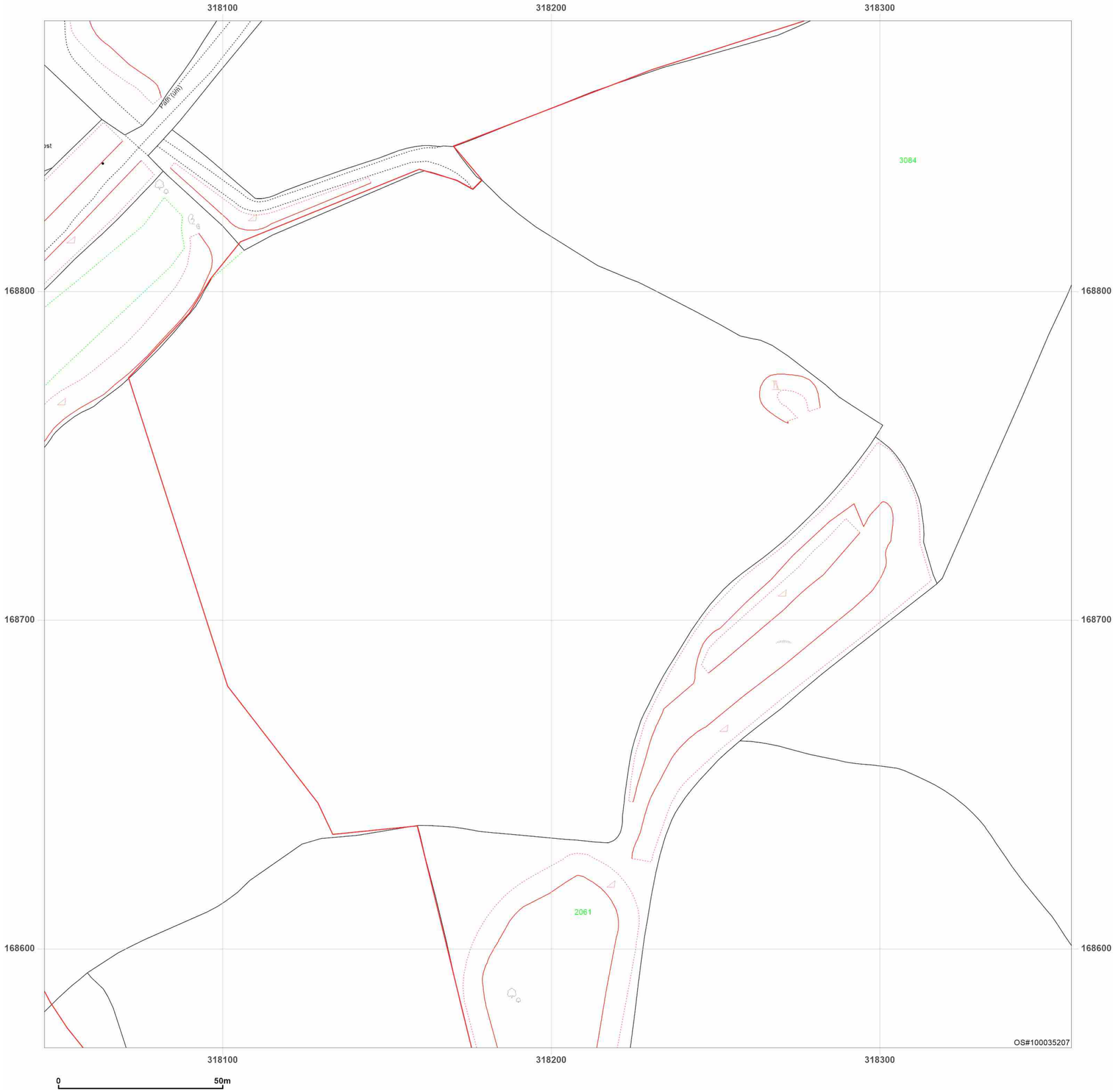
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_5_4
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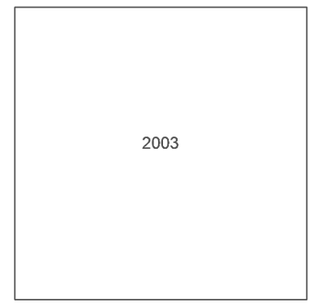
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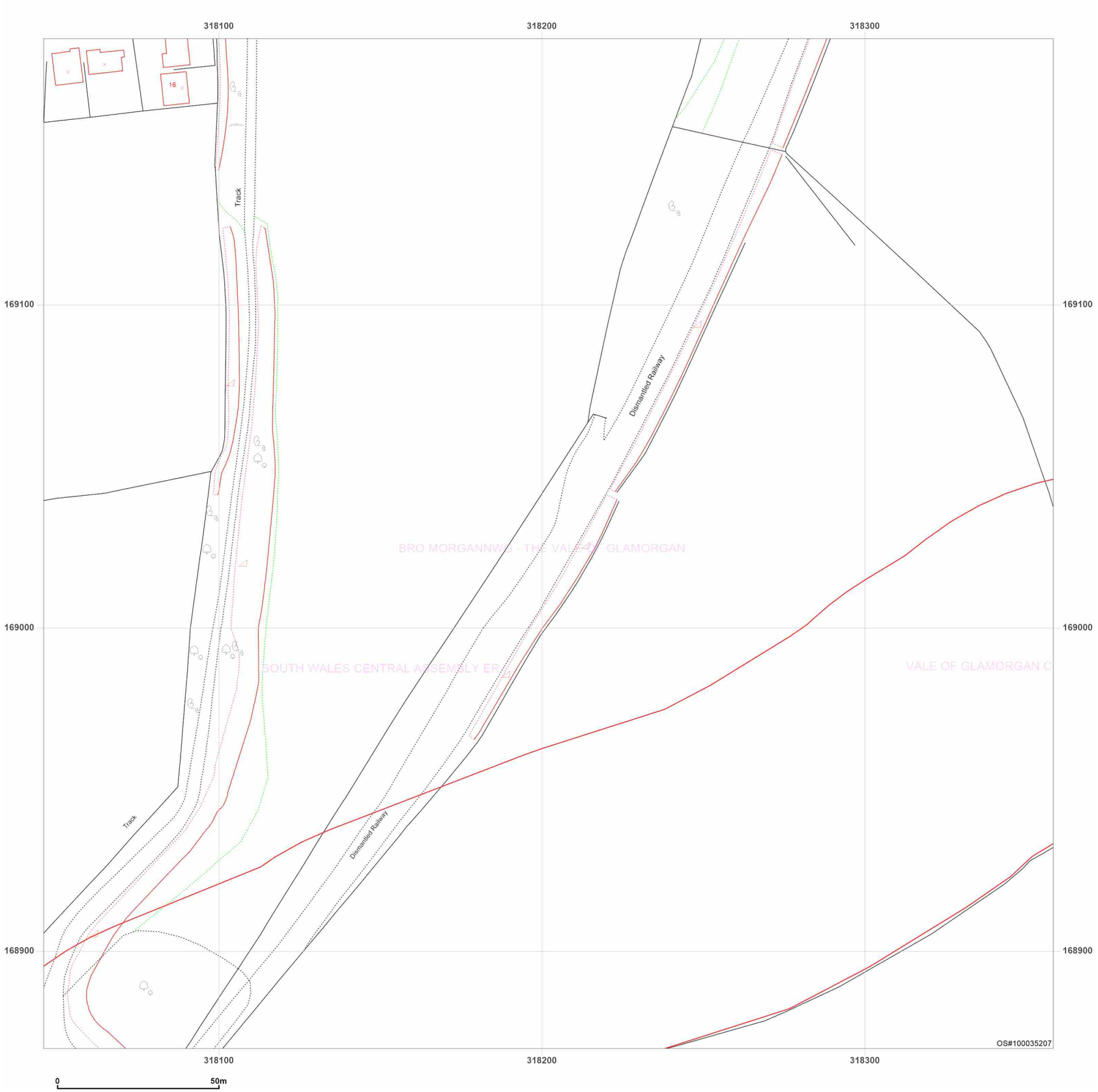
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_5_5
Grid Ref: 318202, 169026

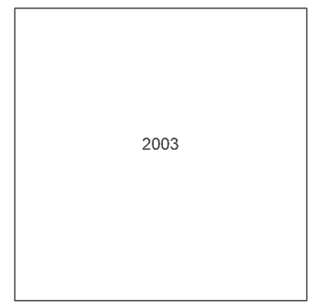
Map Name: LandLine

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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_6_2
Grid Ref: 318502, 168126

Map Name: LandLine

Map date: **2003**

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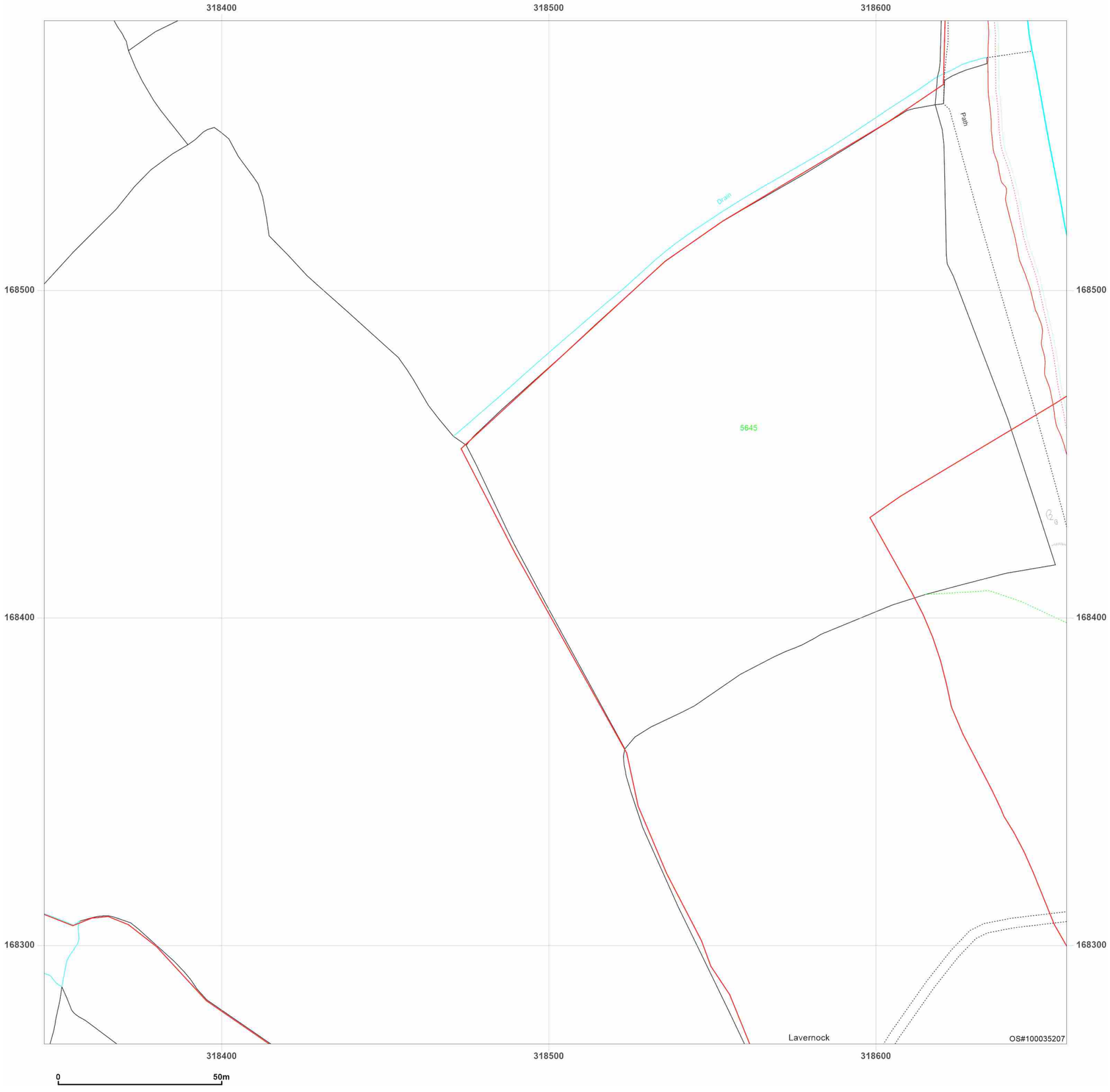
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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_6_3
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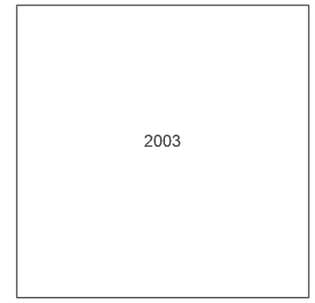
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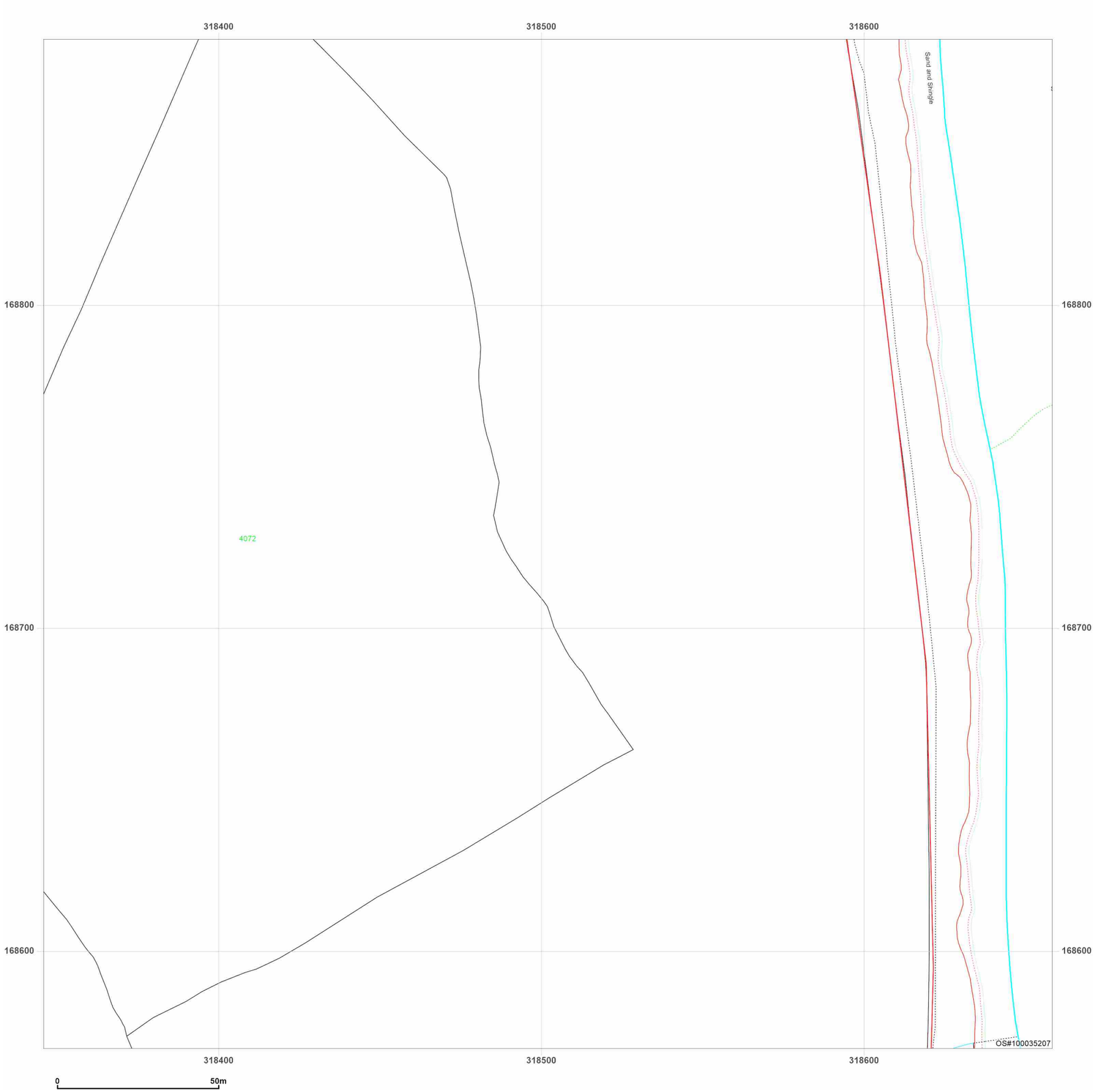
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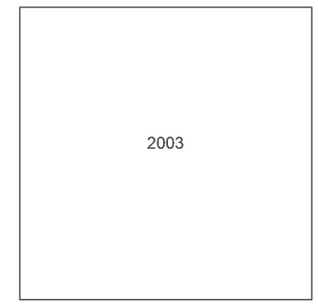
Site Details:

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Client Ref: UK0028363.7660 - 161
Report Ref: WSP-DE5-BE4-N1H-YAJ_Landline_6_4
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Map Name: LandLine
Map date: **2003**
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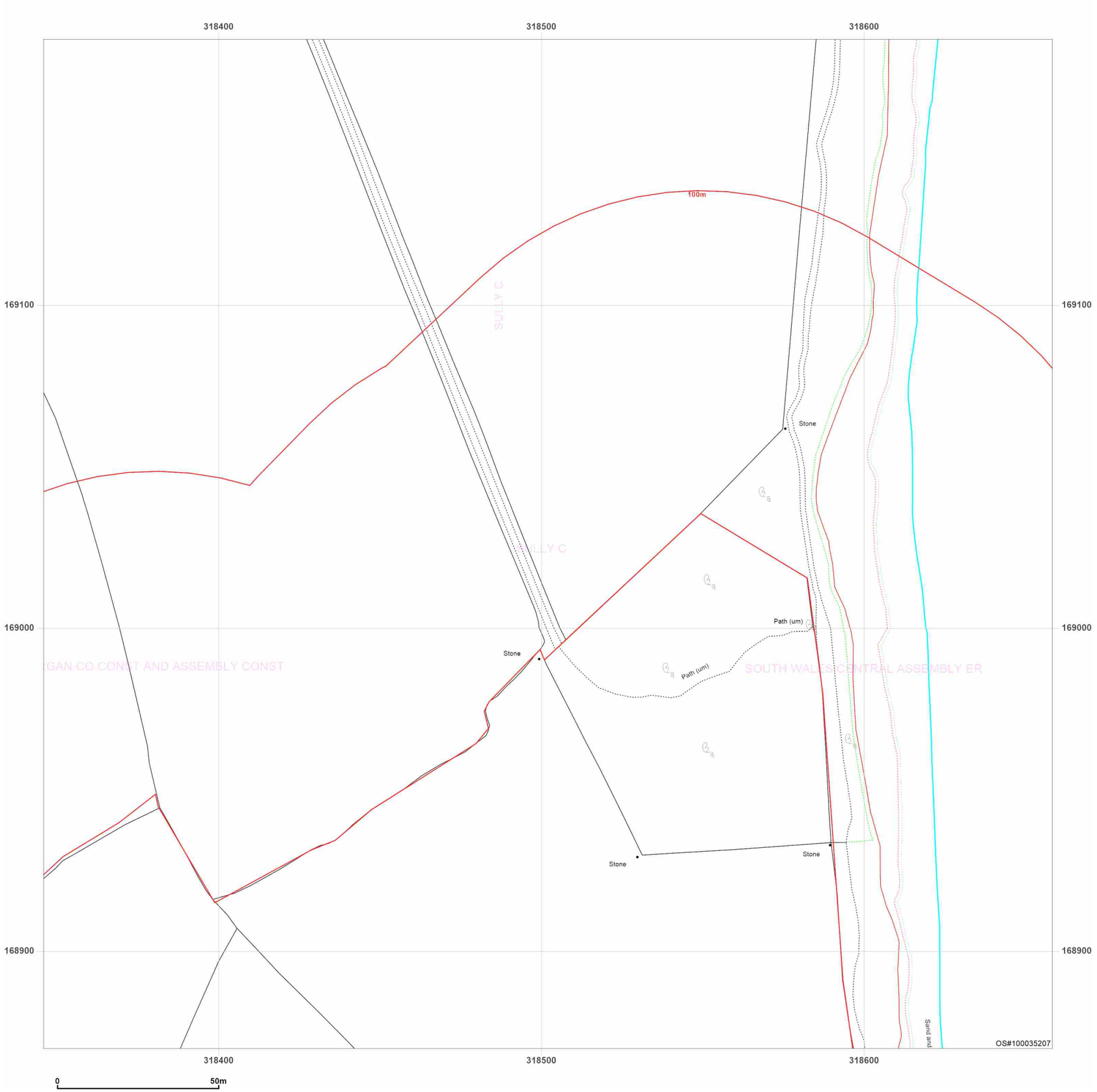
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Grid Ref: 318502, 169026

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