



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

PLAS COCH HALL OF RESIDENCE
PLAS COCH ROAD
WREXHAM
LL11 2BW

Date of enquiry: 01 March 2018
Date enquiry received: 01 March 2018
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Your reference: CRM.427.008



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

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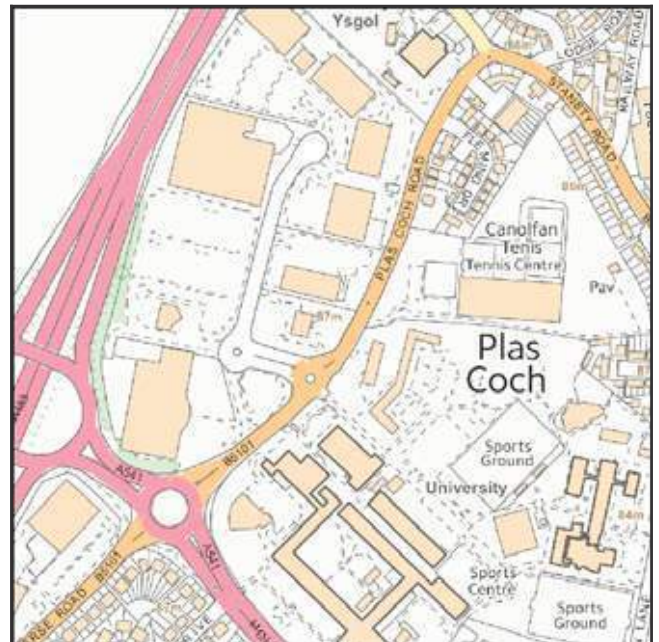
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Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	No
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 2 seams of coal at 270m to 360m depth, and last worked in 1921.

Any movement in the ground due to coal mining activity should have stopped.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

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

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

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

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

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

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

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

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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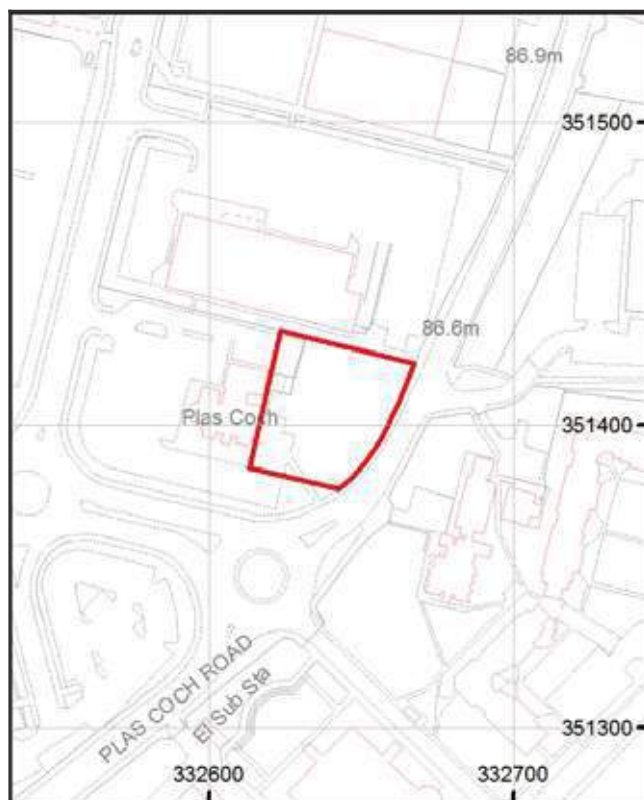
Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



How to contact us

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NW

N

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S

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Aerial Photograph Capture date: 09-Jun-2013
Grid Reference: 332635,351401
Site Size: 0.22ha

Report Reference: EMS-461248_618907
Client Reference: EMS_461248_618907

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	6	71
1.2 Additional Information – Historical Tank Database	0	3	0	22
1.3 Additional Information – Historical Energy Features Database	0	0	11	31
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	8
1.6 Potentially Infilled Land	0	1	5	33

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	2	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	3
2.1.8 Records of Licensed Discharge Consents	0	0	0	1
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	1	4
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	2
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	6	0

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	5	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	1	1
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology				0-500m		
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?				Yes		
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?				Yes		
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	3	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	5
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	1	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	Yes	Yes
6.10 Detailed River Network entries within 500m of the site	0	0	0	0	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	No					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate					

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	1	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	13
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards	
9.1 What is the maximum risk of natural ground subsidence?	Very Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	Full radon protective measures are necessary.

Section 10: Mining	
10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

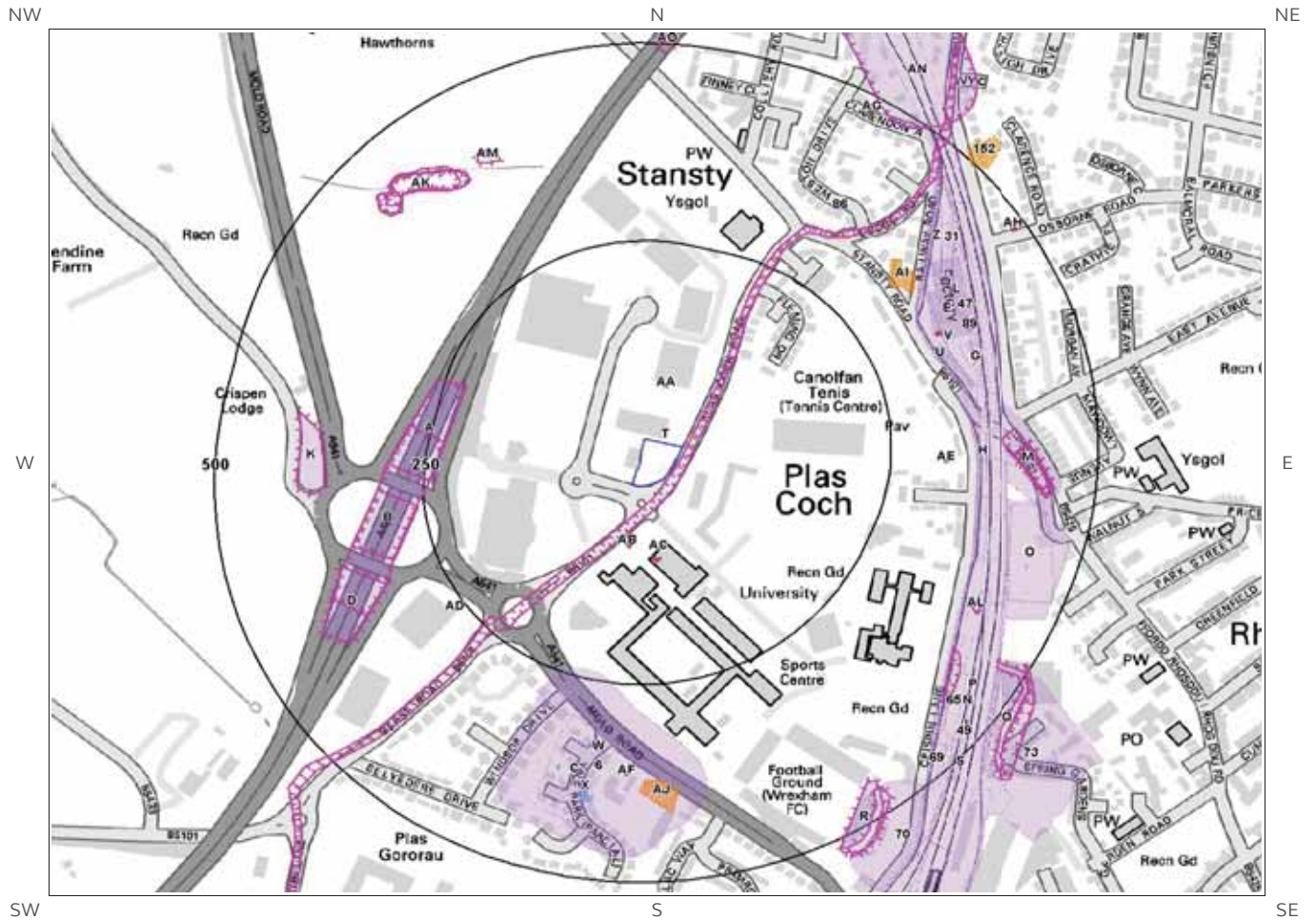
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 77

ID	Distance [m]	Direction	Use	Date
1A	223	W	Cuttings	1980
2A	223	W	Cuttings	1974
3B	232	W	Cuttings	1989
4B	232	W	Cuttings	1992
5B	232	W	Cuttings	1985
6	239	S	Omnibus Depot	1949
7B	257	W	Cuttings	1980
8B	257	W	Cuttings	1974
9C	297	S	Bus Depot	1974
10C	297	S	Bus Depot	1992
11C	297	S	Bus Depot	1985
12C	297	S	Bus Depot	1989
13C	297	S	Bus Depot	1980
14G	318	NE	Railway Sidings	1964
15D	318	SW	Cuttings	1974
16D	318	SW	Cuttings	1980
17E	320	NE	Unspecified Factory	1974
18E	320	NE	Unspecified Factory	1992
19E	320	NE	Unspecified Factory	1980
20E	320	NE	Unspecified Factory	1985
21E	320	NE	Unspecified Factory	1989
22E	322	NE	Locomotive Works	1909
23F	324	NE	Railway Sidings	1949
24F	324	NE	Railway Sidings	1938
25E	324	NE	Locomotive Works	1898
26E	324	NE	Railway Sidings	1898
27E	324	NE	Locomotive Works	1949
28E	324	NE	Unspecified Commercial/Industrial	1938
29G	326	E	Railway Buildings	1964
30G	331	E	Railway Sidings	1872
31	336	E	Railway Sidings	1938
32G	340	E	Railway Sidings	1909
33V	341	NE	Railway Building	1938

34L	347	NE	Railway Buildings	1964
35H	353	E	Railway Building	1964
36N	353	E	Railway Sidings	1938
37H	355	E	Carriage Shed	1872
38G	355	E	Goods Shed	1872
39I	360	E	Railway Sidings	1989
40I	360	E	Railway Sidings	1985
41J	361	E	Railway Sidings	1974
42J	361	E	Railway Sidings	1980
43K	369	W	Unspecified Pit	1974
44K	369	W	Unspecified Pit	1980
45L	369	NE	Railway Buildings	1938
46Y	371	E	Railway Sidings	1909
47	371	NE	Railway Building	1872
48Z	374	NE	Railway Buildings	1964
49	375	E	Railway Sidings	1964
50S	385	SE	Railway Sidings	1992
51M	386	E	Cuttings	1872
52M	390	E	Railway Building	1872
53AL	392	SE	Unspecified Heap	1872
54N	396	SE	Railway Sidings	1898
55M	399	E	Cuttings	1909
56M	399	E	Cuttings	1938
57M	400	E	Cuttings	1938
58M	400	E	Cuttings	1949
59O	402	E	Unspecified Depot	1974
60O	402	E	Unspecified Depot	1980
61P	404	SE	Railway Sidings	1909
62O	404	E	Unspecified Depot	1992
63P	406	SE	Unspecified Heap	1872
64I	409	SE	Railway Sidings	1872
65	410	SE	Railway Sidings	1909
66R	454	SE	Unspecified Heap	1964
67Q	460	SE	Unspecified Works	1964
68Q	460	SE	Unspecified Ground Workings	1909
69	464	SE	Railway Building	1992
70	466	SE	Drill Shed	1898
71R	467	SE	Unspecified Ground Workings	1980
72R	467	SE	Unspecified Ground Workings	1974
73	470	SE	Unspecified Depot	1992
74Q	473	SE	Unspecified Commercial/Industrial	1974
75Q	473	SE	Unspecified Commercial/Industrial	1980

76AN	484	NE	Colliery	1872
77S	491	SE	Railway Sidings	1909

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

25

ID	Distance (m)	Direction	Use	Date
78T	5	N	Unspecified Tank	1957
79T	5	N	Unspecified Tank	1968
80T	6	N	Unspecified Tank	1958
81U	325	E	Unspecified Tank	1957
82U	325	E	Unspecified Tank	1958
83V	331	E	Unspecified Tank	1937
84W	332	S	Unspecified Tank	1958
85W	333	S	Unspecified Tank	1957
86	354	NE	Unspecified Tank	1912
87C	363	S	Unspecified Tank	1958
88C	364	S	Unspecified Tank	1957
89	370	NE	Unspecified Tank	1912
90X	384	S	Tanks	1970
91X	384	S	Tanks	1992
92X	384	S	Tanks	1982
93X	384	S	Tanks	1978
94X	384	S	Tanks	1988
95X	384	S	Tanks	1989
96X	392	S	Tanks	1989
97X	392	S	Tanks	1970
98Y	409	NE	Unspecified Tank	1985
99Z	409	NE	Unspecified Tank	1975
100Y	409	NE	Unspecified Tank	1973
101O	440	E	Unspecified Tank	1990
102O	441	E	Unspecified Tank	1973

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

42

ID	Distance (m)	Direction	Use	Date
103AB	68	S	Electricity Substation	1994
104AA	68	N	Electricity Substation	1994
105AA	68	N	Electricity Substation	1992
106AA	68	N	Electricity Substation	1994
107AA	68	N	Electricity Substation	1994
108AB	69	S	Electricity Substation	1994
109AC	77	S	Electricity Substation	1992
110AC	87	S	Electricity Substation	1988
111AC	88	S	Electricity Substation	1968
112AC	88	S	Electricity Substation	1975
113AC	89	S	Electricity Substation	1994
114AD	262	SW	Electricity Substation	1992
115AD	263	SW	Electricity Substation	1988
116AD	263	SW	Electricity Substation	1988
117AE	312	E	Electricity Substation	1988
118AE	313	E	Electricity Substation	1994
119AE	313	E	Electricity Substation	1992
120AE	313	E	Electricity Substation	1994
121AE	313	E	Electricity Substation	1994
122AE	313	E	Electricity Substation	1975
123AE	313	E	Electricity Substation	1968
124V	335	NE	Electricity Substation	1990
125V	335	NE	Electricity Substation	1985
126V	335	NE	Electricity Substation	1975
127V	335	NE	Electricity Substation	1973
128AF	360	S	Electricity Substation	1988
129AF	360	S	Electricity Substation	1975
130AF	360	S	Electricity Substation	1968
131AF	361	S	Electricity Substation	1992
132AF	361	S	Electricity Substation	1994
133AF	361	S	Electricity Substation	1994
134AF	361	S	Electricity Substation	1994
135AG	477	NE	Electricity Substation	1985
136AG	477	NE	Electricity Substation	1990
137AG	478	NE	Electricity Substation	1975
138AG	478	NE	Electricity Substation	1973
139AG	478	NE	Electricity Substation	1967
140AH	481	NE	Electricity Substation	1989
141AH	481	NE	Electricity Substation	1973
142AH	482	NE	Electricity Substation	1984
143AH	482	NE	Electricity Substation	1988

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 8

ID	Distance (m)	Direction	Use	Date
145AI	323	NE	Garage	1973
146AI	323	NE	Garage	1975
147AI	327	NE	Garage	1985
148AJ	371	S	Garage	1988
149AJ	371	S	Garage	1978
150AJ	371	S	Garage	1982
151AJ	371	S	Garage	1970
152	495	NE	Garage	1958

1.6 Potentially Infilled Land

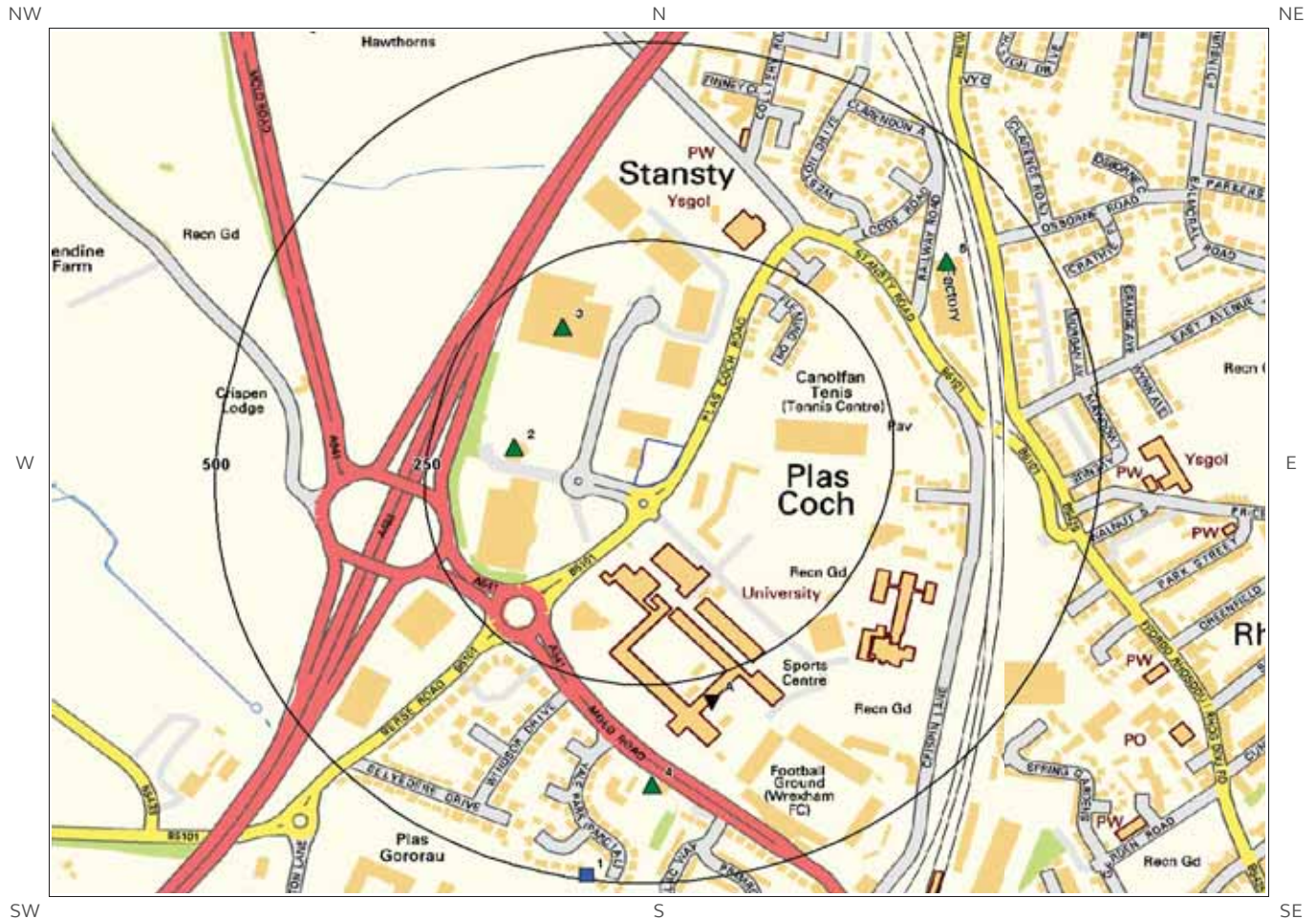
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 39

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
153	3	SE	Canal	1872
154A	223	W	Cuttings	1980
155A	223	W	Cuttings	1974
156B	232	W	Cuttings	1989
157B	232	W	Cuttings	1985
158B	232	W	Cuttings	1992
159B	257	W	Cuttings	1974
160B	257	W	Cuttings	1980
161D	318	SW	Cuttings	1974

162D	318	SW	Cuttings	1980
163K	369	W	Unspecified Pit	1974
164K	369	W	Unspecified Pit	1980
165AK	386	NW	Pond	1938
166M	386	E	Cuttings	1872
167AK	386	NW	Pond	1898
168AK	386	NW	Pond	1949
169AK	386	NW	Pond	1938
170AK	386	NW	Pond	1872
171AK	389	NW	Pond	1980
172AK	389	NW	Pond	1974
173AK	389	NW	Pond	1964
174AL	392	SE	Unspecified Heap	1872
175AM	392	NW	Pond	1872
176AM	392	NW	Pond	1938
177AM	392	NW	Pond	1949
178AM	392	NW	Pond	1898
179M	399	E	Cuttings	1909
180M	399	E	Cuttings	1938
181M	400	E	Cuttings	1949
182M	400	E	Cuttings	1938
183P	406	SE	Unspecified Heap	1872
184R	454	SE	Unspecified Heap	1964
185Q	460	SE	Unspecified Ground Workings	1909
186R	467	SE	Unspecified Ground Workings	1980
187R	467	SE	Unspecified Ground Workings	1974
188AN	484	NE	Colliery	1872
189AO	490	N	Pond	1898
190AO	490	N	Pond	1872
191Q	491	SE	Pond	1872

2. Environmental Permits, Incidents and Registers Map



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2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

4

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
2	151	W	332465 351417	Address: Sainsbury's Petrol Filling Station, Plas Coch Road, Wrexham, LL11 2BW Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.
3	171	NW	332523 351570	Address: Johnsons Cleaners UK Ltd, Sainsbury Superstore, Plas Coch Road, Stansty, Wrexham, LL11 2BW Process: Dry Cleaning Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.
4	378	S	332628 350991	Address: Shell UK Ltd, Mold Road, Wrexham, LL11 2AF Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.
5	389	NE	332981 351652	Address: Remploy Ltd, Furniture Group, Railway Road, Rhosddu, Wrexham, LL11 2DN Process: Timber Process Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

3

The following RAS Licence (3 or 4) records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
9A	281	S	332700 351100	Glyndwr University, Multidisciplinary Research And Innovation Centre, North East Wales Institute, Plas Coch, Wrexham, Clwyd, LL11 2AW	Glyndwr University	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AW1233	Date of Approval: 15/1/1997 Effective from: 21/1/1997 Last date of update: 2015-01-01	Superseded By Variation
10A	281	S	332700 351100	Glyndwr University, Multidisciplinary Research And Innovation Centre, North East Wales Institute, Plas Coch, Wrexham, Clwyd, LL11 2AW	Glyndwr University	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AW1233	Date of Approval: 1/12/2003 Effective from: 1/1/2004 Last date of update: 2015-01-01	Revoked/cancelled

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
11A	281	S	332700 351100	Glyndwr University, Multidisciplinary Research And Innovation Centre,north East Wales Institute,plas Coch, Wrexham, Clwyd, LL11 2AW	Glyndwr University	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	AW1209	Date of Approval:21/1/1997 Effective from:21/1/1997 Last date of update:2015-01-01	Revoked/cancelled

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

1

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
1	495	S	332550 350880	Address: WREXHAM MOLD ROAD DEPOT, WREXHAM MOLD ROAD DEPOT, MOLD ROAD DEPOT, UNKNOWN, UNKNOWN, UNKNOWN Effluent Type: UNSPECIFIED Permit Number: CM0026101 Permit Version: 1 Receiving Water: UN-NAMED TRIB. OF GWENFRO Status: CONSENT EXPIRED - TIME LIMIT Issue date: 21/12/1964 Effective Date: 21-Dec-1964 Revocation Date: 06/01/1993

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

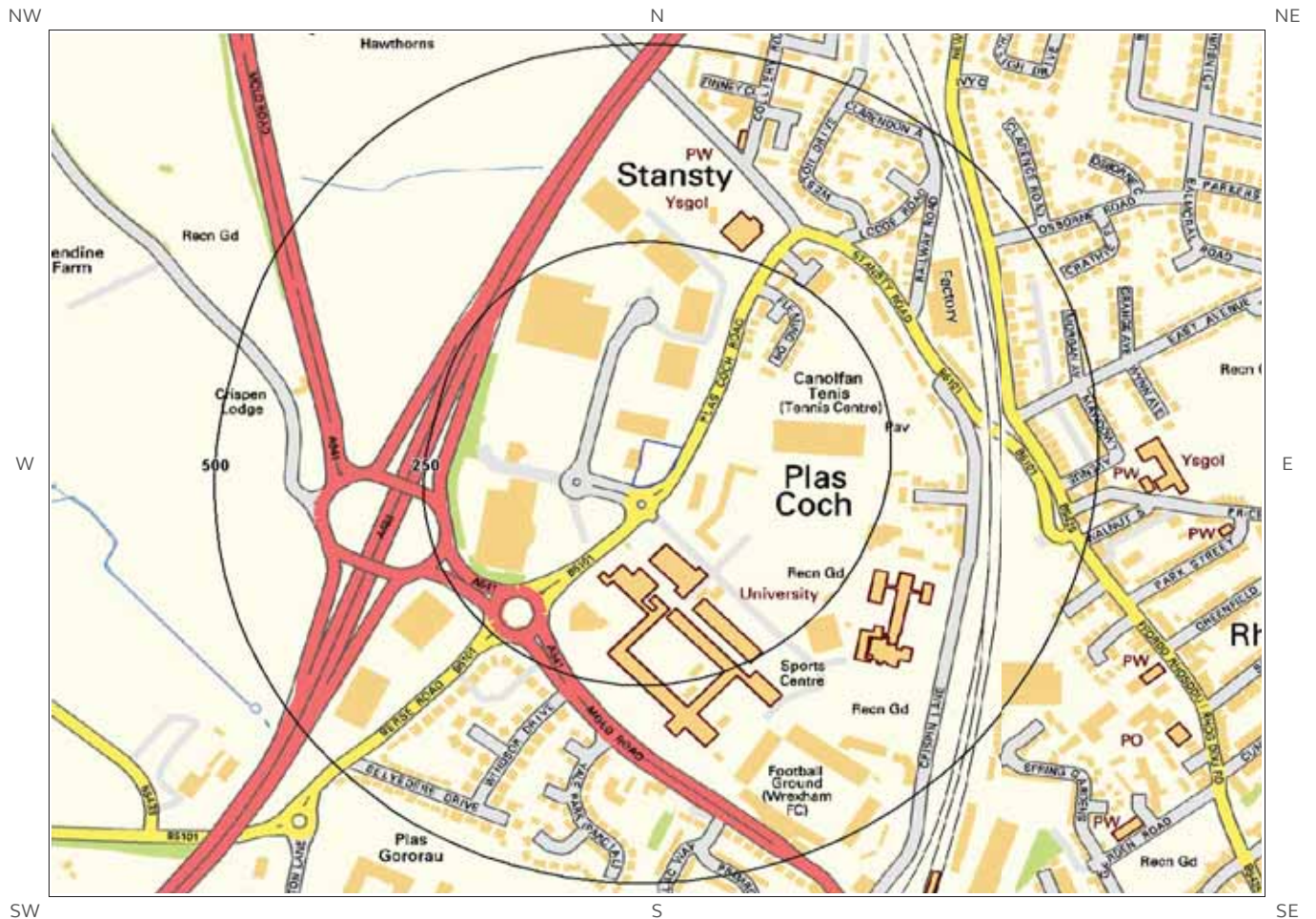
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

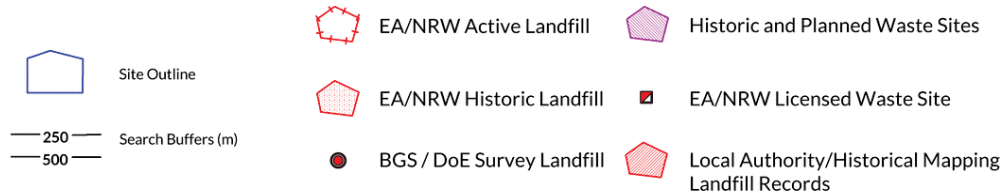
0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

5

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	954	N		Site Address: Holmes Plant Hire, Rhosddu Waste Licence: Yes Site Reference: - Waste Type: Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: D S Holmes Builders Limited First Recorded: 01-Jan-1990 Last Recorded: 18-Feb-1991
Not shown	1155	SW		Site Address: Berse Drelincourt, Berse Road, Wrexham, Lower Berse Waste Licence: Yes Site Reference: WMBC L/34 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 29-May-1981 Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Mr L G Hockey First Recorded: 01-Jan-1981 Last Recorded: 31-Dec-1985
Not shown	1318	S		Site Address: Parciau, Wrexham, Clwyd Waste Licence: - Site Reference: - Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Wrexham Borough Council Licence Holder: Wrexham Borough Council First Recorded: 01-Jan-1969 Last Recorded: 31-Dec-1972
Not shown	1353	NW		Site Address: Stansty Gardens, Mold Road, Wrexham, Summerhill Waste Licence: Yes Site Reference: WMBC L/41 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 28-Jul-1983 Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Sinclair Developments Limited First Recorded: 31-Jul-1983 Last Recorded: -

ID	Distance (m)	Direction	NGR	Details
Not shown	1366	NW		Site Address: Rosenheath, Highfield, Wrexham, Stansty Waste Licence: Yes Site Reference: WMBC L/37 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 08-Aug-1984 Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Mr C Butler First Recorded: 31-Aug-1984 Last Recorded: -

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

2

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1313	S	333144 350021	Parciau	Wrexham Council	Polygon
Not shown	1499	S	333182 349937	Refuse Tip	1971 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

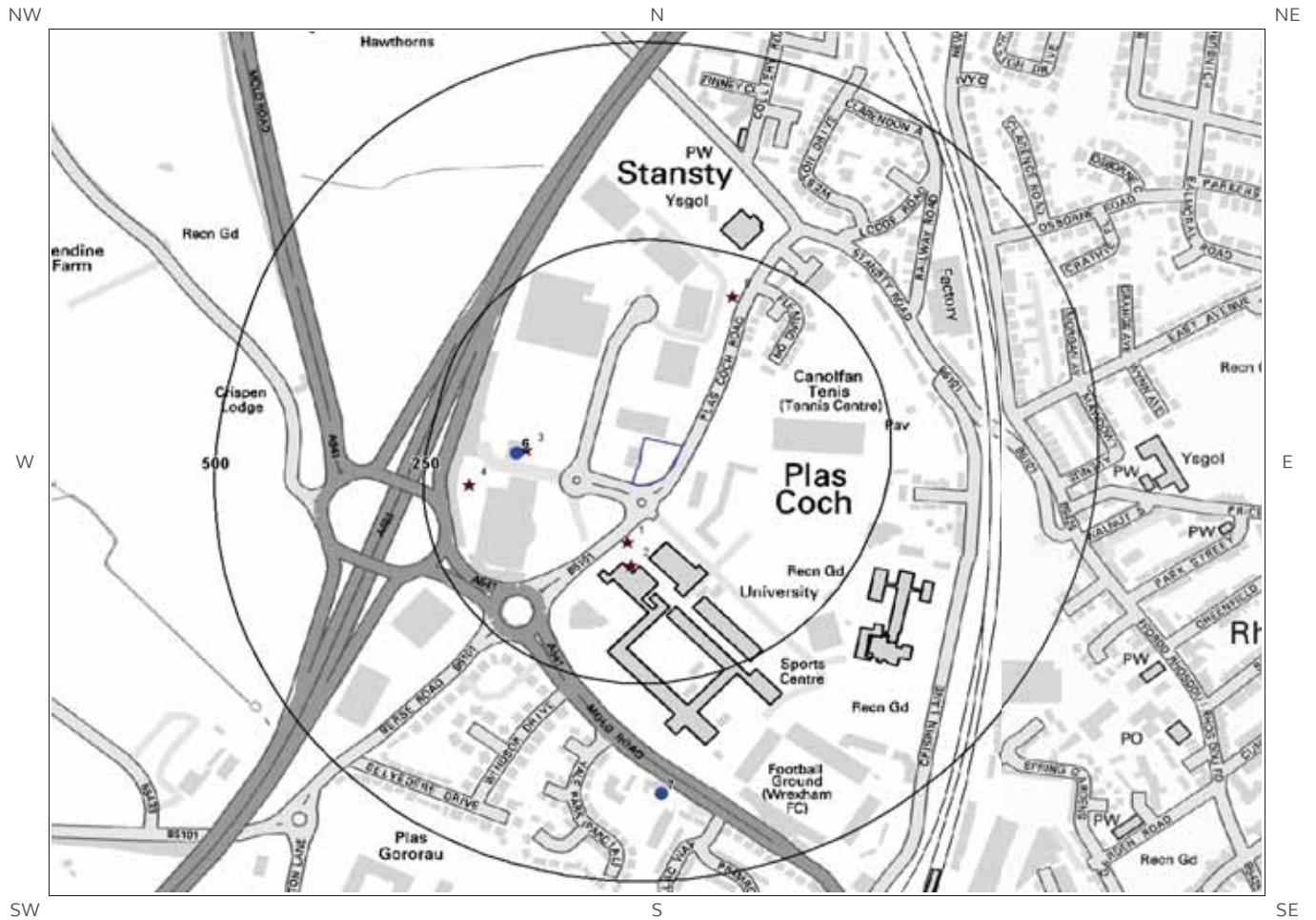
6

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	648	SE	332906 350786	Site Address: Mold Road, Wrexham, Clwyd, LL11 2AD Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JAC001 EPR reference: LP3194FV/V002 Operator: Jacques Garage Waste Management licence No: 37037 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: - Modified: 30/11/2001 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Expired Site Name: Jacques Garage Correspondence Address: Mold Road, Wrexham, Clwyd, LL11
Not shown	648	SE	332905 350785	Site Address: Jacques Garage, Wrexham, Wrexham, LL11 2AD Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LP3194FV EPR reference: - Operator: Jacques Garage Waste Management licence No: 0 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: 29/09/1992 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: - Correspondence Address: Jacques Garage, Wrexham, Wrexham, LL11
Not shown	648	SE	332905 350785	Site Address: Jacques Garage, Wrexham, Clwyd, LL11 2AD Type: Metal Recycling Site (Vehicle Dismantler) Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LP3194FV EPR reference: - Operator: - Waste Management licence No: 37037 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: 29/09/1992 Modified: - Surrendered Date: - Expiry Date: 24/04/2007 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: Jacques Garage, Wrexham, Clwyd, LL11
Not shown	931	N	332843 352336	Site Address: T Milner & Son, Wrexham, Wrexham, LL11 4YL Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3194FT EPR reference: - Operator: Thomas Milner & Stephen Milner Waste Management licence No: 0 Annual Tonnage: 0.0 Issue Date: 31/03/1999 Effective Date: 31/03/1999 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: - Correspondence Address: T Milner & Son, Wrexham, Wrexham, LL11
Not shown	931	N	332843 352336	Site Address: T Milner & Son, Wrexham, Clwyd, LL11 4YL Type: Metal Recycling Site (mixed MRS's) Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3194FT EPR reference: - Operator: - Waste Management licence No: 37161 Annual Tonnage: 0.0 Issue Date: 31/03/1999 Effective Date: 31/03/1999 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: - Correspondence Address: T Milner & Son, Wrexham, Clwyd, LL11

ID	Distance (m)	Direction	NGR	Details	
Not shown	932	N	332844 352337	Site Address: Rhosddu Ind Est, Rhosddu, Wrexham, Clwyd, LL11 4YL Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: THO002 EPR reference: EP3194FT/A001 Operator: Thomas Milner & Stephen Milner Waste Management licence No: 37161 Annual Tonnage: 4520.0	Issue Date: 31/03/1999 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Revoked Site Name: T Milner & Son Correspondence Address: Rhosddu Ind Est, Rhosddu, Wrexham, Clwyd, LL11

4. Current Land Use Map



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4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

5

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	73	S	Electricity Sub Station	332601 351299	LL11	Electrical Features	Infrastructure and Facilities
2	101	S	Chimney	332606 351270	LL11	Chimneys	Industrial Features
3	135	W	Sainsbury's Wrexham	332480 351416	Plas Coch Road, Wrexham, Clwyd, LL11 2BA	Petrol and Fuel Stations	Road and Rail
4	195	W	Electricity Sub Station	332412 351372	LL11	Electrical Features	Infrastructure and Facilities
5	199	N	Electricity Sub Station	332727 351610	LL11	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

2

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
6	144	W	332469 351412	Sainsburys	Sainsburys Wrexham, Plas Coch Road, Plas Coch Road, Wrexham, Wrexham, LL11 2BA	No	Open
7	390	S	332642 350981	Shell	Shell Wrexham, Mold Road, Mold Road, Wrexham, Wrexham, LL11 2AF	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
GFSD-XXSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

5.3 Bedrock and Solid Geology

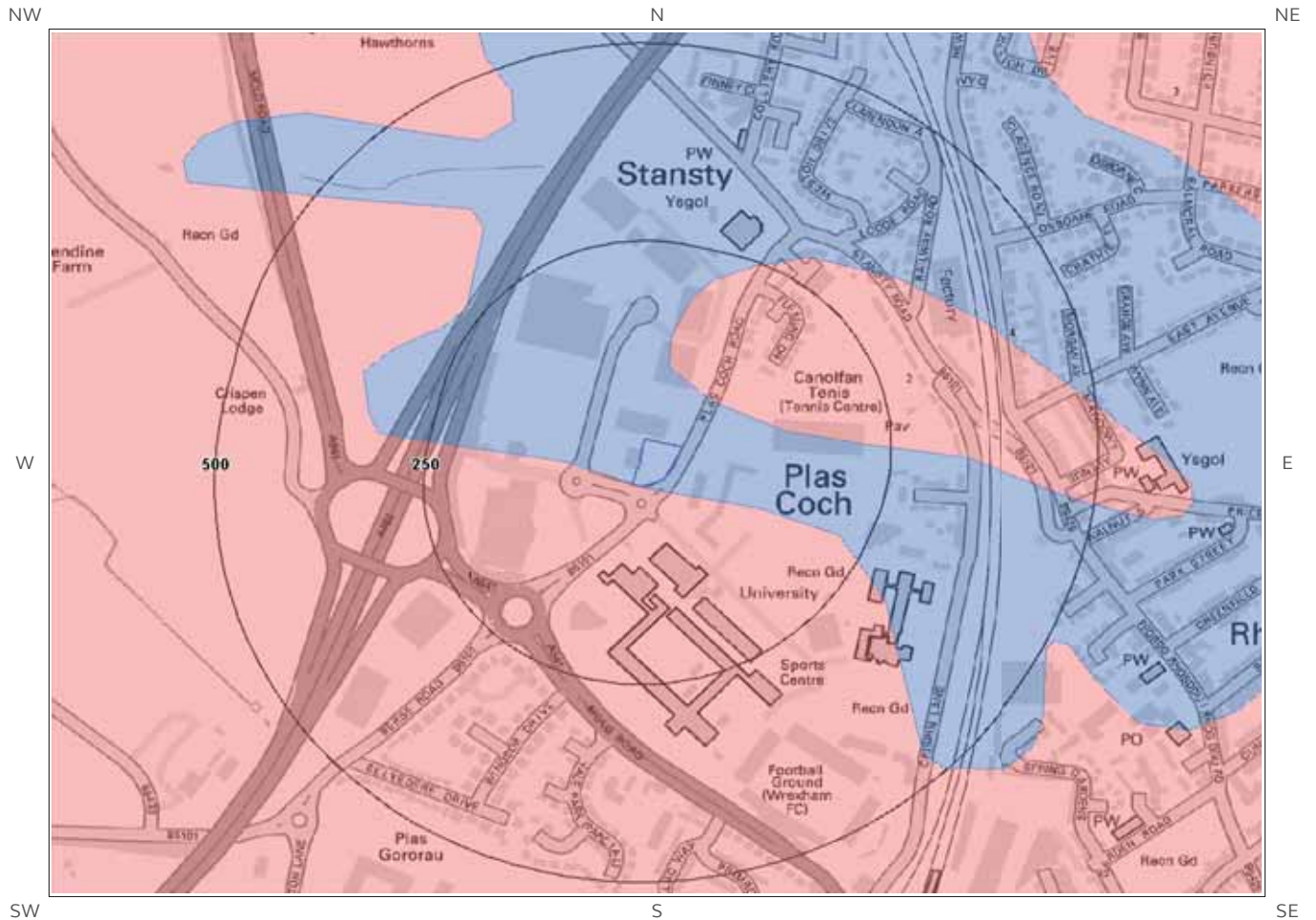
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
ETM-MDST	ETRURIA FORMATION	MUDSTONE
PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED)	MUDSTONE, SILTSTONE AND SANDSTONE

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

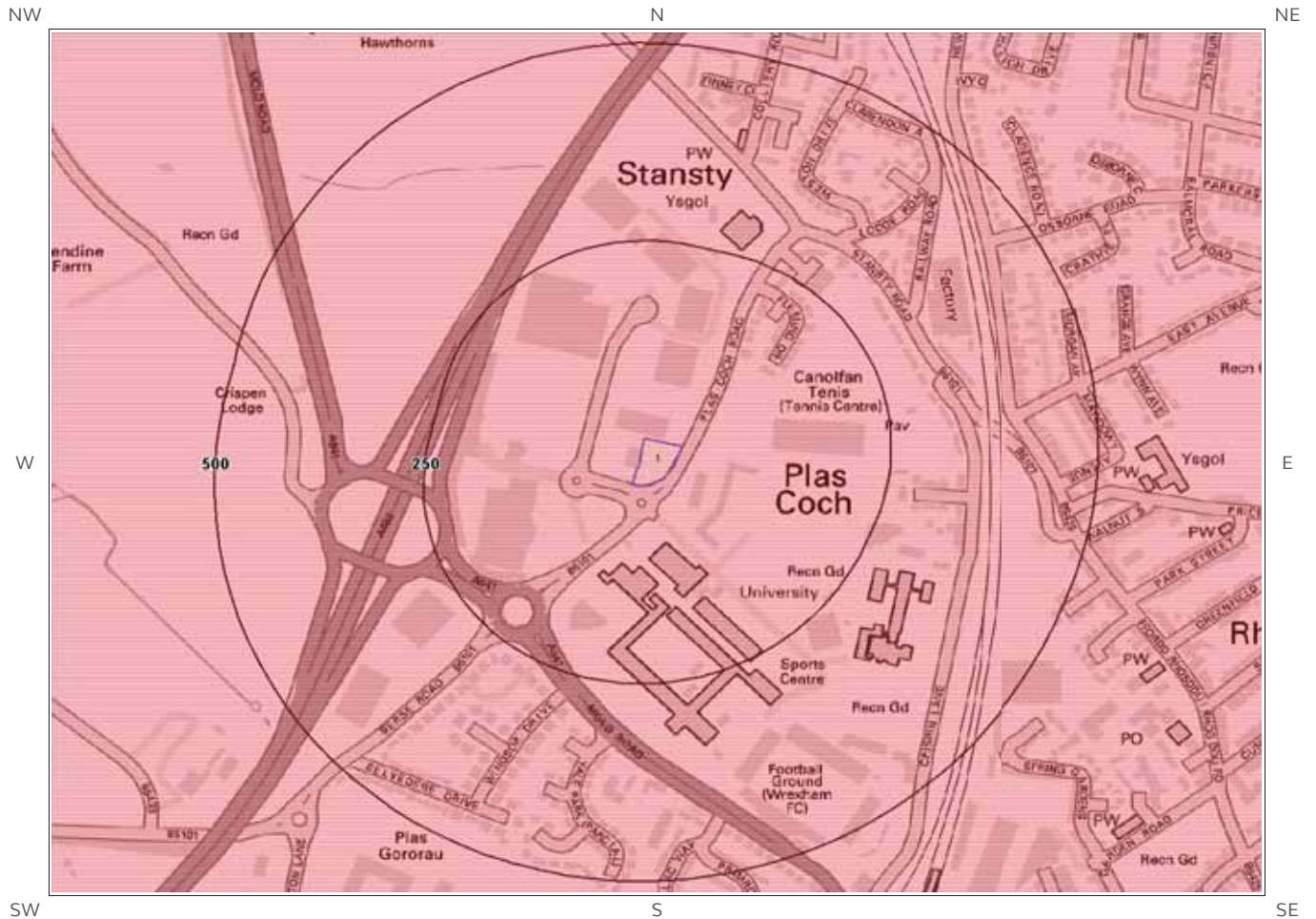
6a. Aquifer Within Superficial Geology



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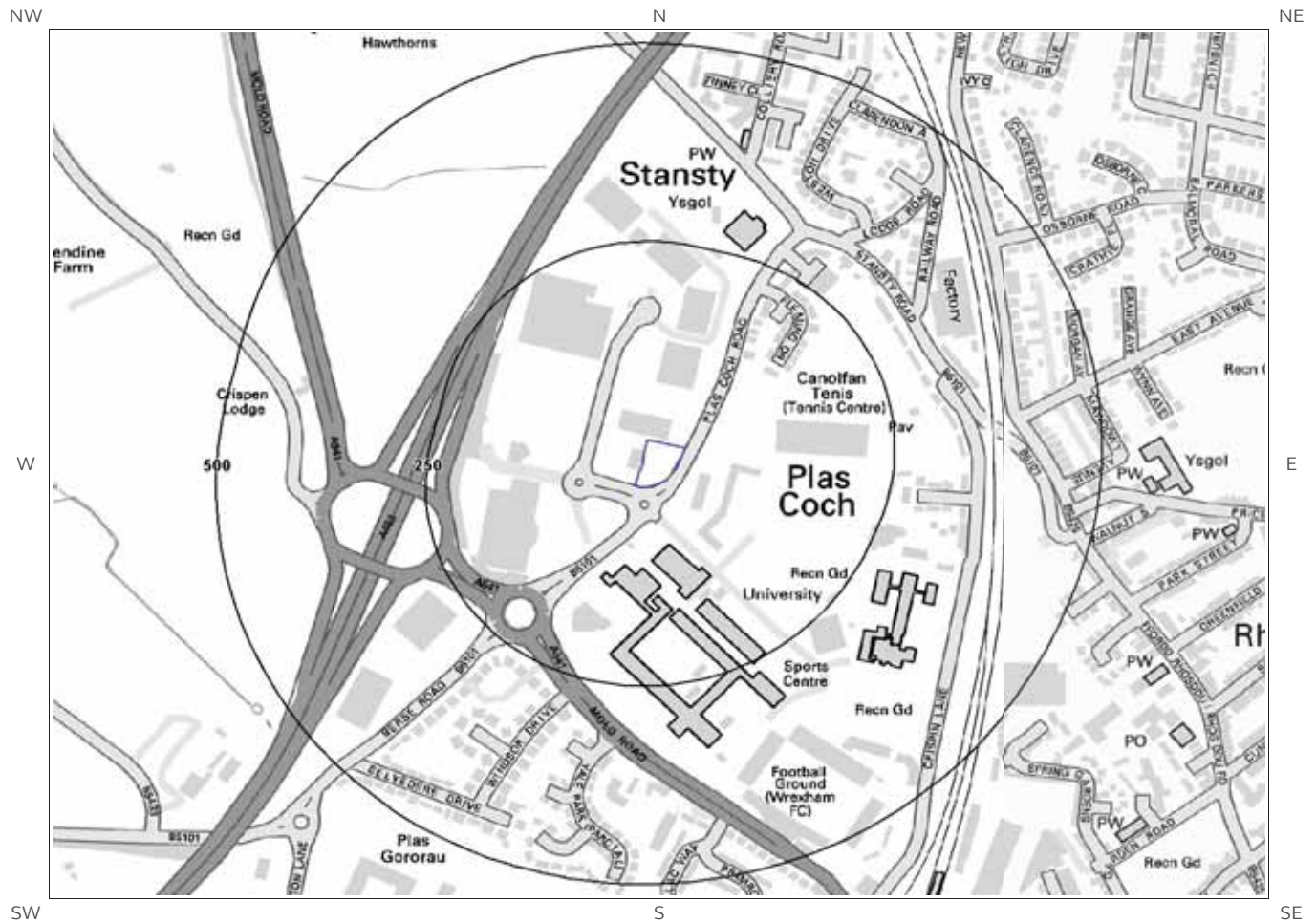
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



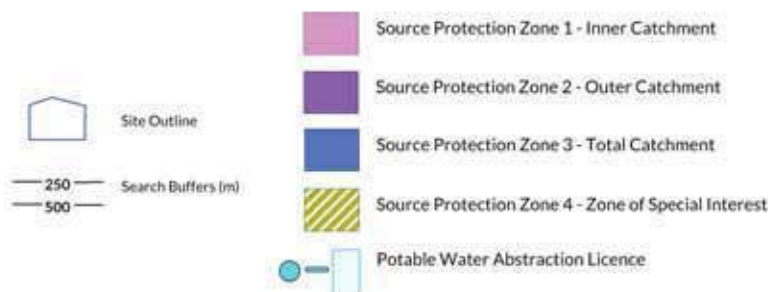
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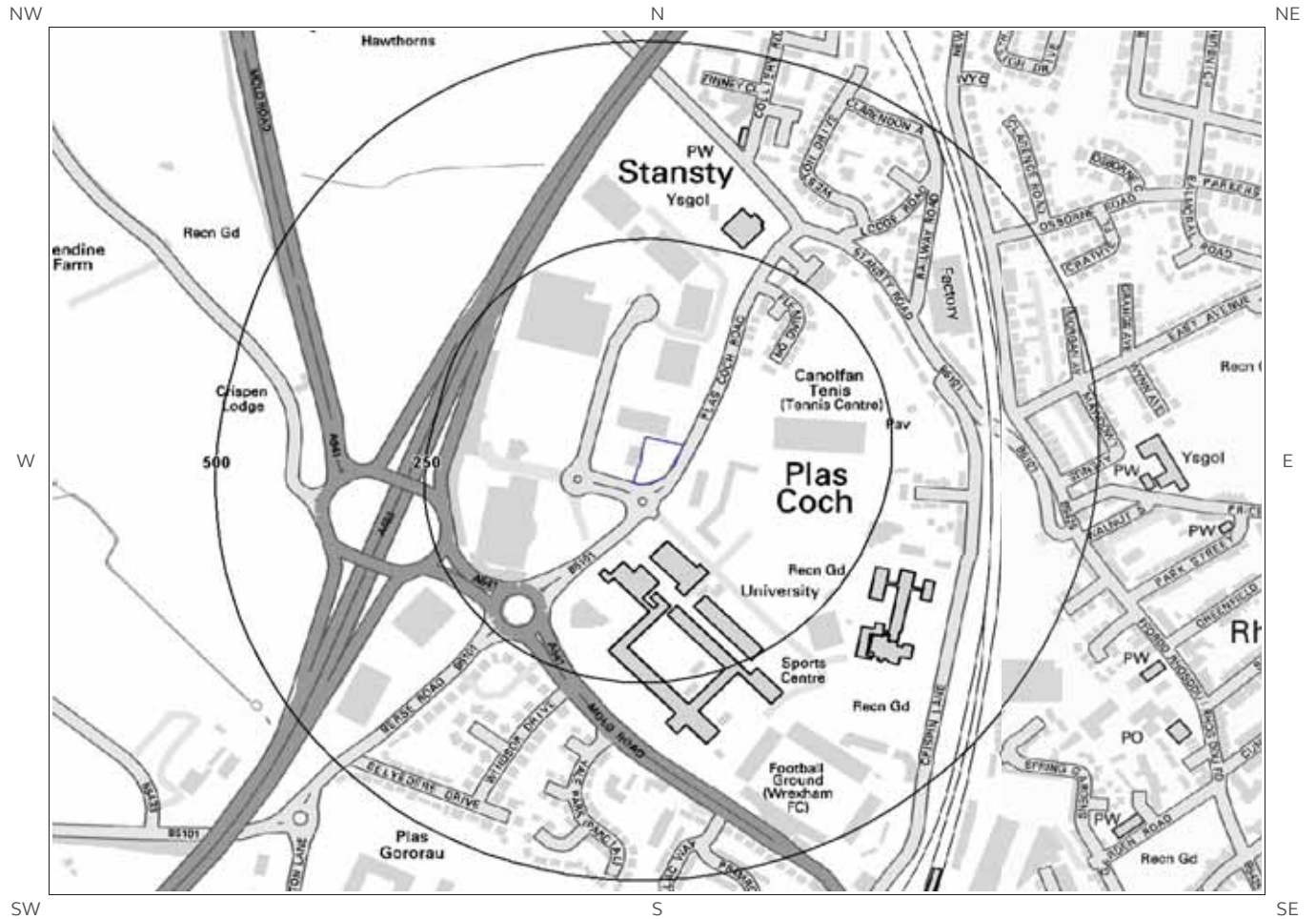
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



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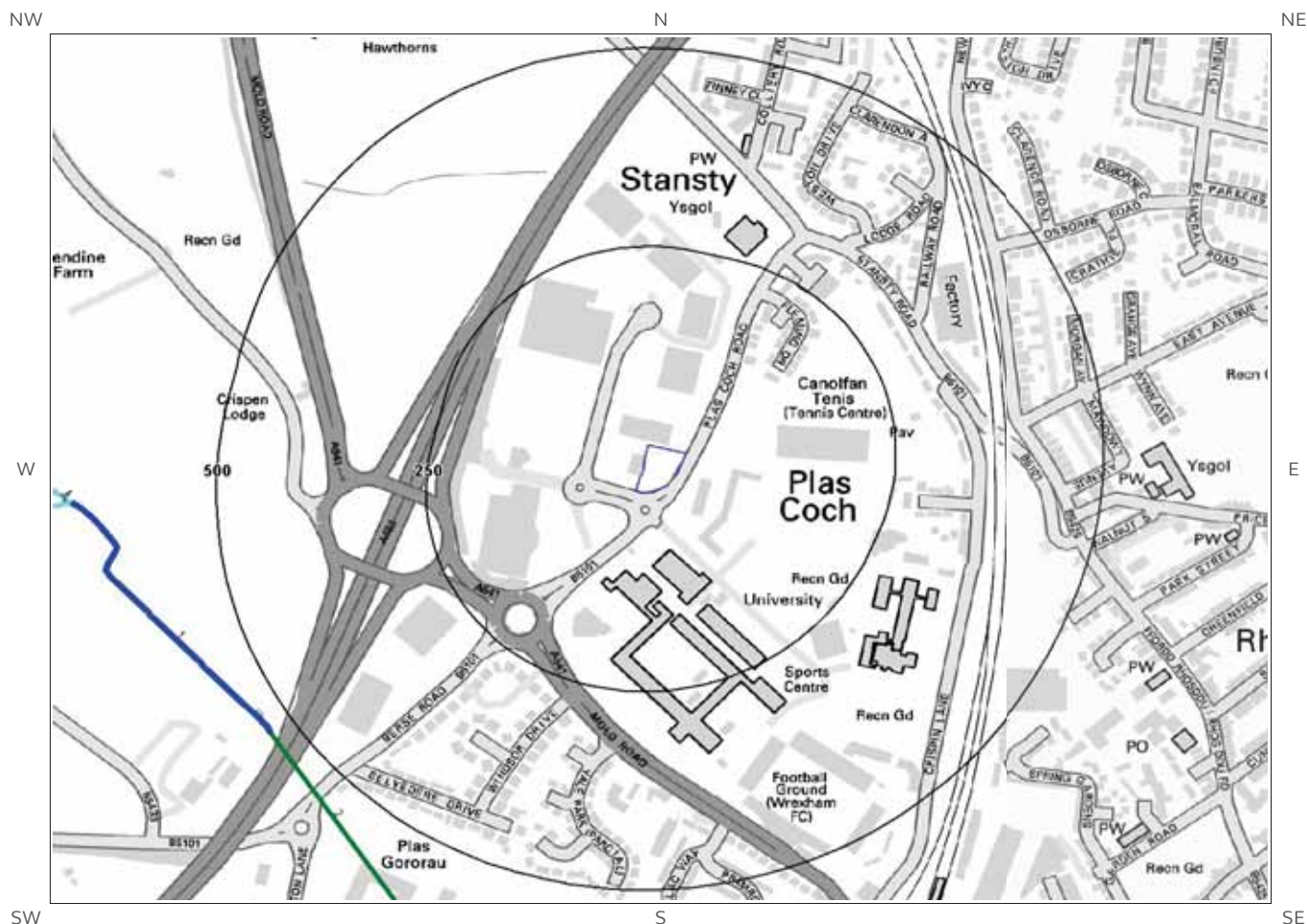
6d. Hydrogeology – Source Protection Zones within confined aquifer



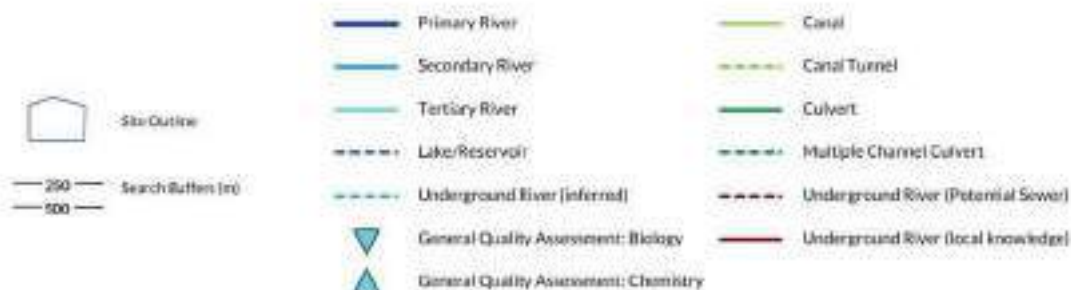
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6e. Hydrology – Detailed River Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property?
Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	68	NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	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

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	591	S	332600 350780	Status: Historical Licence No: 24/67/7/0012 Details: Process water Direct Source: Eaw Groundwater Point: Well No.1 Data Type: Point Name: Carlsberg Tetley Brewing Ltd. Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 319 Original Start Date: 25/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 4/5/1970 Version End Date:
Not shown	660	S	332630 350710	Status: Historical Licence No: 24/67/7/0012 Details: Process water Direct Source: Eaw Groundwater Point: Well No.3 Data Type: Point Name: Carlsberg Tetley Brewing Ltd. Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 319 Original Start Date: 25/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 4/5/1970 Version End Date:
Not shown	689	S	332610 350681	Status: Historical Licence No: 24/67/7/0012 Details: Process water Direct Source: Eaw Groundwater Point: Well No.2 Data Type: Point Name: Carlsberg Tetley Brewing Ltd. Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 319 Original Start Date: 25/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 4/5/1970 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1171	S	332350 350230	Status: Historical Licence No: 24/67/7/0135 Details: Spray Irrigation - Direct Direct Source: Eaw Surface Water Point: River Gwenfro Data Type: Point Name: Rees Annual Volume (m³): - Max Daily Volume (m³): - Application No: 328 Original Start Date: 24/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 28/1/1983 Version End Date:
Not shown	1235	S	331800 350100	Status: Active Licence No: 24/67/7/0135 Details: Spray Irrigation - Direct Direct Source: Eaw Surface Water Point: Tributary Of River Gwenfro Data Type: Line Name: Morris Annual Volume (m³): 4546 Max Daily Volume (m³): 511.43 Application No: - Original Start Date: 24/2/1967 Expiry Date: - Issue No: 101 Version Start Date: 13/6/2003 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1299	SE	333230 350220	Status: Historical Licence No: 24/67/7/0147 Details: Effluent/Slurry Dilution Direct Source: Eaw Surface Water Point: River Gwenfro Data Type: Point Name: Wrexham County Borough	Annual Volume (m³): - Max Daily Volume (m³): - Application No: L30 Original Start Date: 24/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 24/2/1967 Version End Date:
Not shown	1309	SW	331190 350560	Status: Active Licence No: 24/67/7/0135 Details: Spray Irrigation - Direct Direct Source: Eaw Surface Water Point: River Gwenfro Data Type: Line Name: Morris	Annual Volume (m³): 4546 Max Daily Volume (m³): 511.43 Application No: - Original Start Date: 24/2/1967 Expiry Date: - Issue No: 101 Version Start Date: 13/6/2003 Version End Date:
Not shown	1545	SW	331100 350060	Status: Active Licence No: 24/67/7/0135 Details: Spray Irrigation - Direct Direct Source: Eaw Surface Water Point: Tributary Of River Gwenfro Data Type: Line Name: Morris	Annual Volume (m³): 4546 Max Daily Volume (m³): 511.43 Application No: - Original Start Date: 24/2/1967 Expiry Date: - Issue No: 101 Version Start Date: 13/6/2003 Version End Date:

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
276	NW	Minor Aquifer/High Leaching Potential	H2	Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	1146	SW	332000 350400	River Name: Gwenfro Reach: Hospital - Conf. Trib. Nr. South Sea End/Start of Stretch: End of Stretch NGR	C	C	C	C	C

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAH). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
Not shown	924	S	332530 350450	River Name: Gwenfro Reach: Hospital - Conf. Trib. Nr. South Sea End/Start of Stretch: Sample Point NGR	A	B	B	C	-
Not shown	1146	SW	332000 350400	River Name: Gwenfro Reach: Hospital - Conf. Trib. Nr. South Sea End/Start of Stretch: End of Stretch NGR	A	B	B	C	-
Not shown	1146	SW	332000 350400	River Name: Gwenfro Reach: Willow Rd.wrexham - Hospital End/Start of Stretch: Start of Stretch NGR	B	B	B	B	-

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

No

Database searched and no data found.

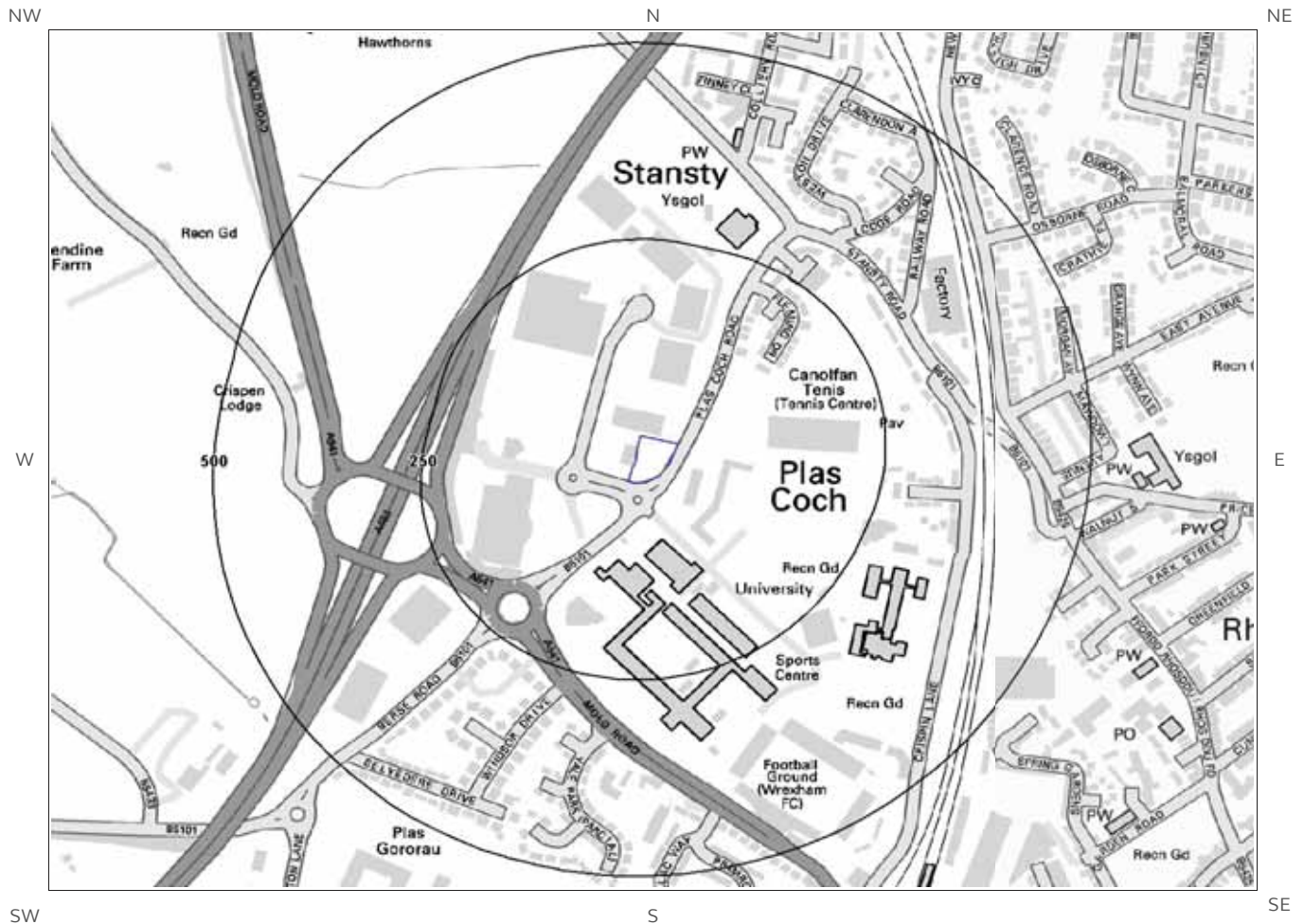
6.11 Surface Water Features

Are there any surface water features within 250m of the study site?

No

Database searched and no data found.

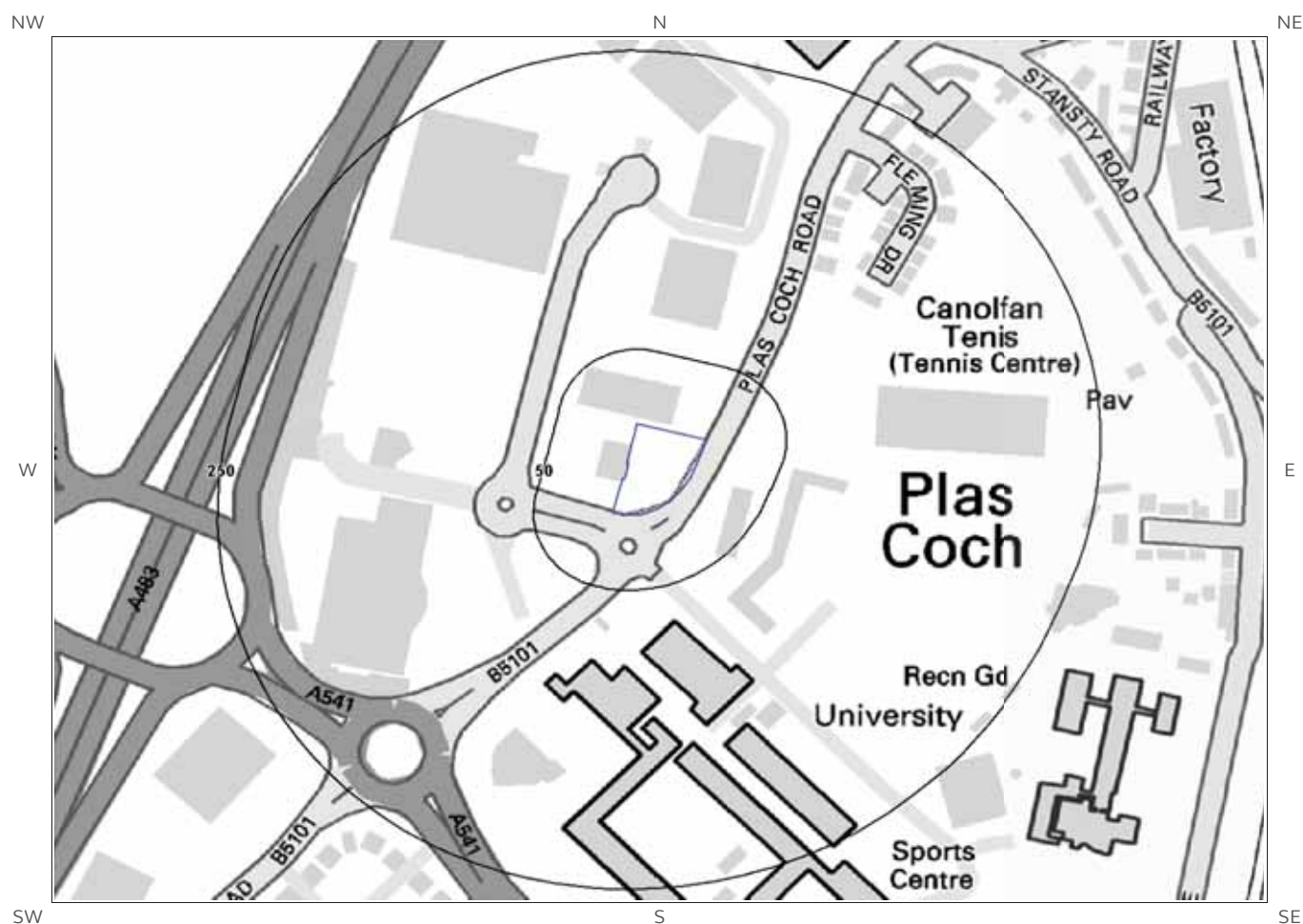
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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 Site Outline
 Search Buffers (m)

RoFRaS Rating
 Very Low
 Low
 Medium
 High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? No

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

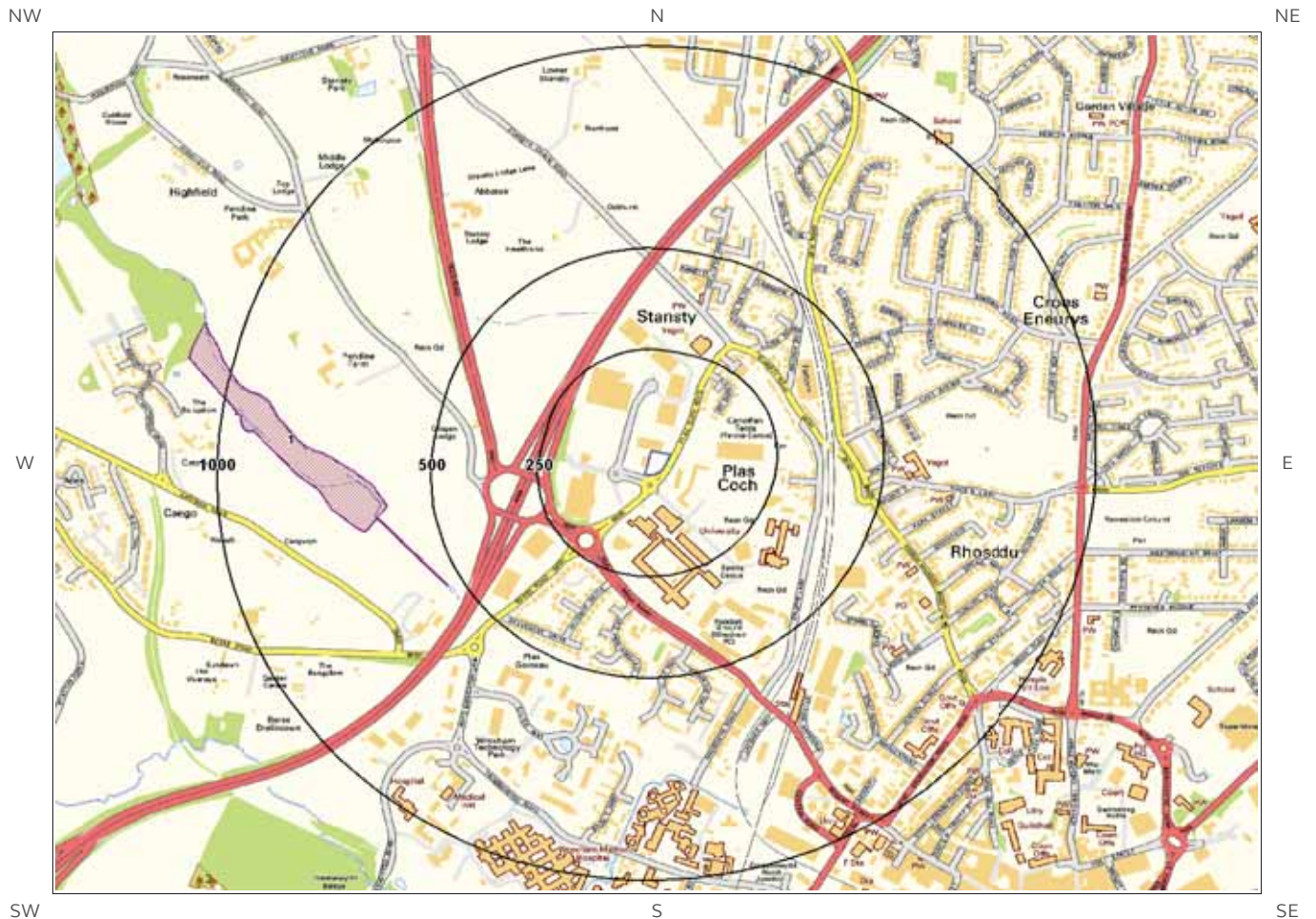
What is the British Geological Survey confidence rating in this result?

Moderate

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?

Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

1

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
1	535	SW	GATEWEN MARSH	Natural Resources Wales

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

13

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
2	1416	SW	Unknown	Restored Ancient Woodland Site
3	1435	NW	Unknown	Restored Ancient Woodland Site
4	1492	W	Unknown	Restored Ancient Woodland Site
5	1638	NW	Unknown	Restored Ancient Woodland Site
Not shown	1844	SW	Unknown	Restored Ancient Woodland Site
Not shown	1877	N	Unknown	Ancient and Semi-Natural Woodland
Not shown	1881	N	WILDERNESS WOOD	Ancient and Semi-Natural Woodland
Not shown	1885	N	Unknown	Ancient and Semi-Natural Woodland
Not shown	1892	S	Unknown	Ancient and Semi-Natural Woodland
Not shown	1898	S	Unknown	Ancient and Semi-Natural Woodland
Not shown	1941	N	Unknown	Ancient and Semi-Natural Woodland
Not shown	1961	N	WILDERNESS WOOD	Ancient and Semi-Natural Woodland
Not shown	1973	N	Unknown	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our [website](#). The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? Full radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary?

Yes

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
0.0	On Site	Not available	Vein Mineral	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site?

No

Guidance: No Guidance Required.

Contact Details

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Email: enquiries@phe.gov.uk
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Ordnance Survey

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Tel: 08456 050505



Local Authority

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Phone: 01978 292 000
Web: <http://www.wrexham.gov.uk/>
Address: The Guildhall, Wrexham, Wrexham, LL11 1AY

Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.

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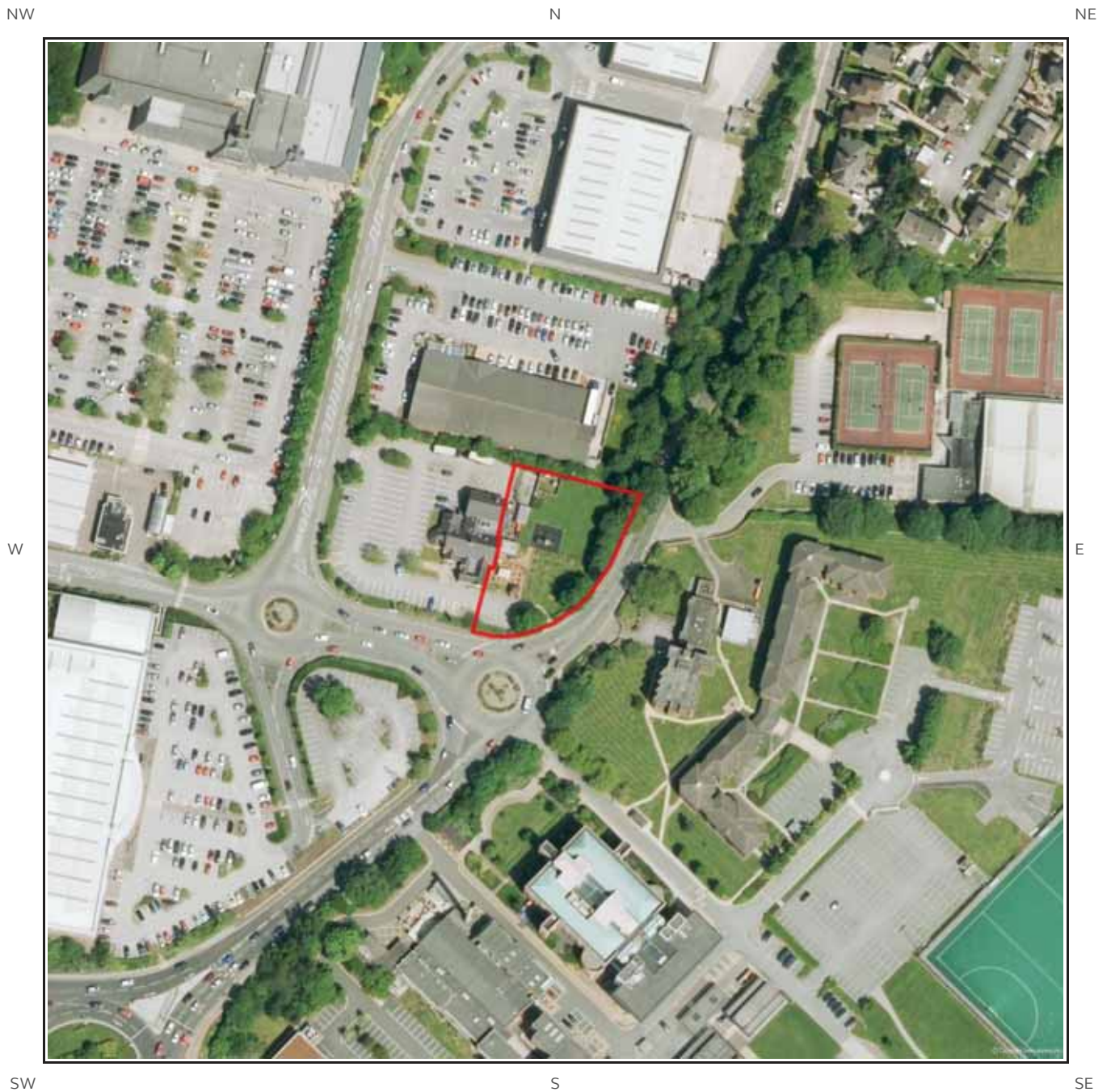
This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
<https://www.groundsure.com/terms-and-conditions-sept-2016>

Geo Insight

Address: ,
Date: 6 Feb 2018
Reference: EMS-461248_618906
Client: emapsite



Aerial Photograph Capture date: 09-Jun-2013
Grid Reference: 332635,351401
Site Size: 0.22ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear features	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale?	Yes

Section 2: Geology 1:50,000 Scale

2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and linear features

2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.

2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?

Yes

2.3.3 Are there any records of linear features within 500m of the study site boundary?

Yes

Section 3: Radon

3. Radon

3.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

3.2 Radon Protection

Full radon protective measures are necessary.

Section 4: Ground Workings

On-site

0-50m

51-250

251-500

501-1000

4.1 Historical Surface Ground Working Features from Small Scale Mapping

0

1

5

Not Searched

Not Searched

4.2 Historical Underground Workings from Small Scale Mapping

0

0

0

0

8

4.3 Current Ground Workings

0

0

0

0

1

Section 5: Mining, Extraction & Natural Cavities

On-site

0-50m

51-250

251-500

501-1000

5.1 Historical Mining

0

0

0

0

8

5.2 Coal Mining

1

0

0

0

0

5.3 Johnson Poole and Bloomer Mining Area

0

0

0

0

0

5.4 Non-Coal Mining*

2

0

0

0

0

5.5 Non-Coal Mining Cavities

0

0

0

0

0

5.5 Natural Cavities

0

0

0

0

0

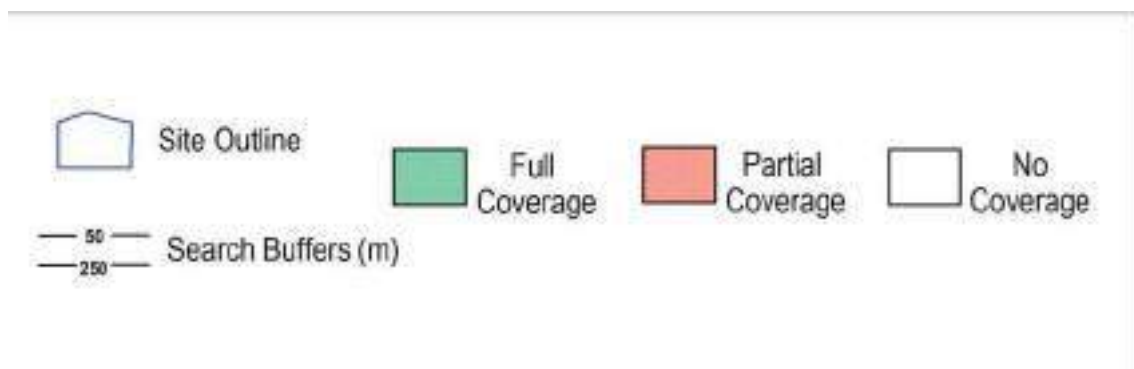
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Very Low				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Very Low				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	1		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	4	0	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	0	

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	Some deposits are mapped
N2	1370.0	Some deposits are mapped	Full	Full	Some deposits are mapped

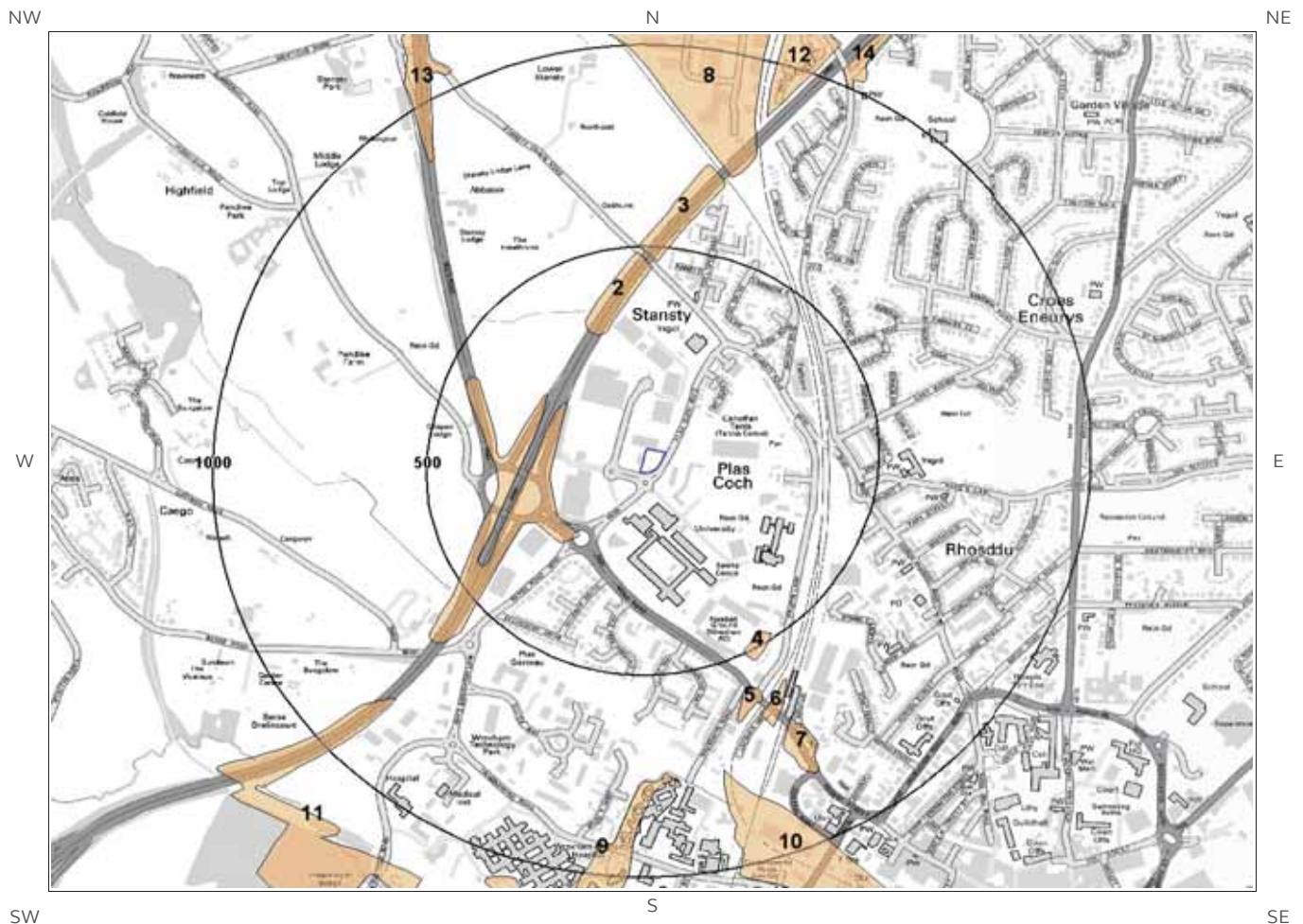
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

1 Geology (1:10,000 scale).

1.1 Artificial Ground map (1:10,000 scale)



Artificial Ground Legend

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1. Geology 1:10,000 scale

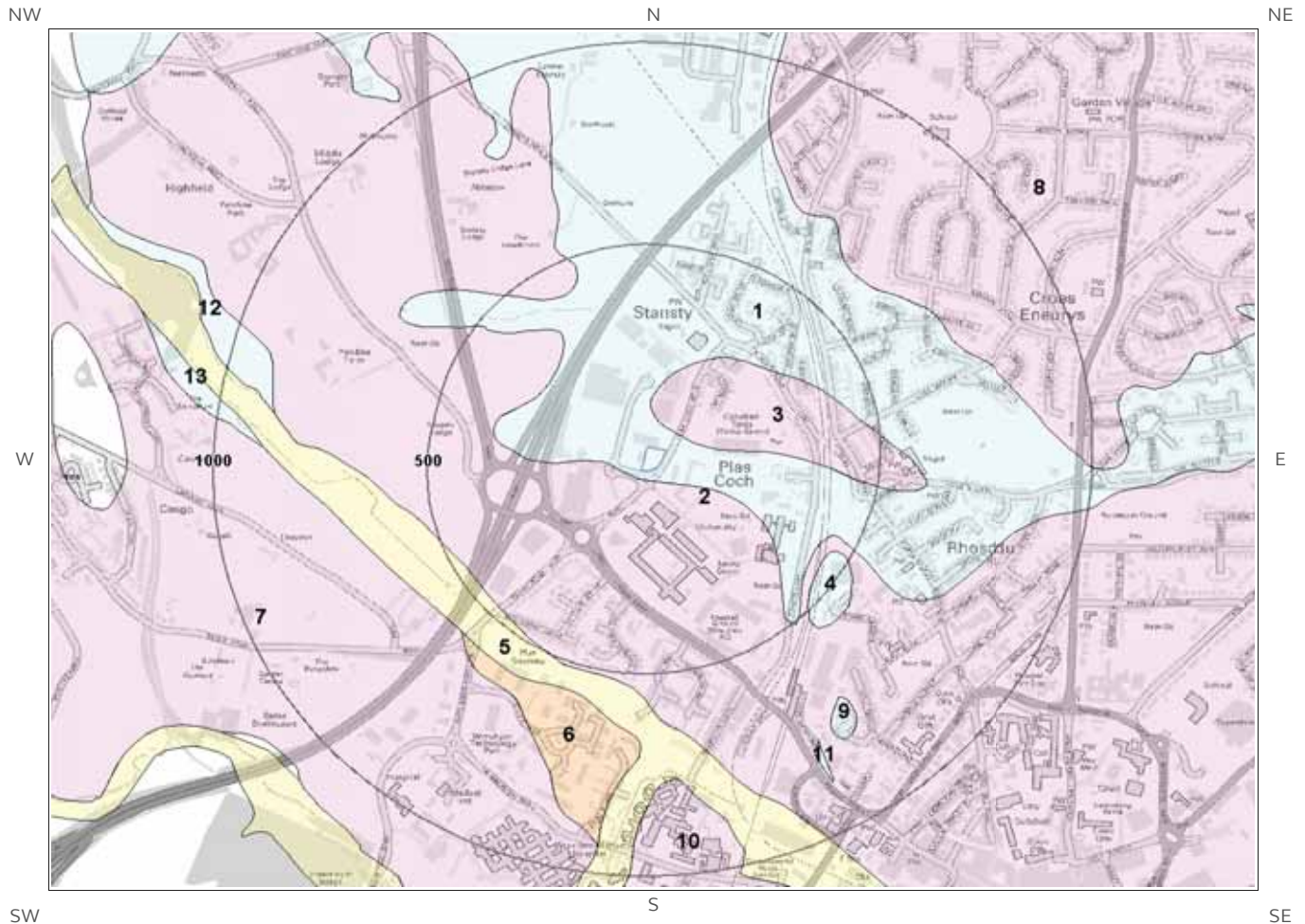
1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	205.0	W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	302.0	N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	463.0	N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	464.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

1.2 Superficial Deposits and Landslips map (1:10,000 scale)



Artificial Ground Legend

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1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILL-DMTN	Till - Diamicton	Diamicton
2	21.0	S	GFDU-XSV	Glaciofluvial Deposits - Sand And Gravel	Sand And Gravel
3	49.0	NE	GFDU-XSV	Glaciofluvial Deposits - Sand And Gravel	Sand And Gravel
4	448.0	SE	TILL-DMTN	Till - Diamicton	Diamicton
5	469.0	SW	ALV-C	Alluvium - Clay (unlithified Deposits Coding Scheme)	Clay

1.2.2 Landslip

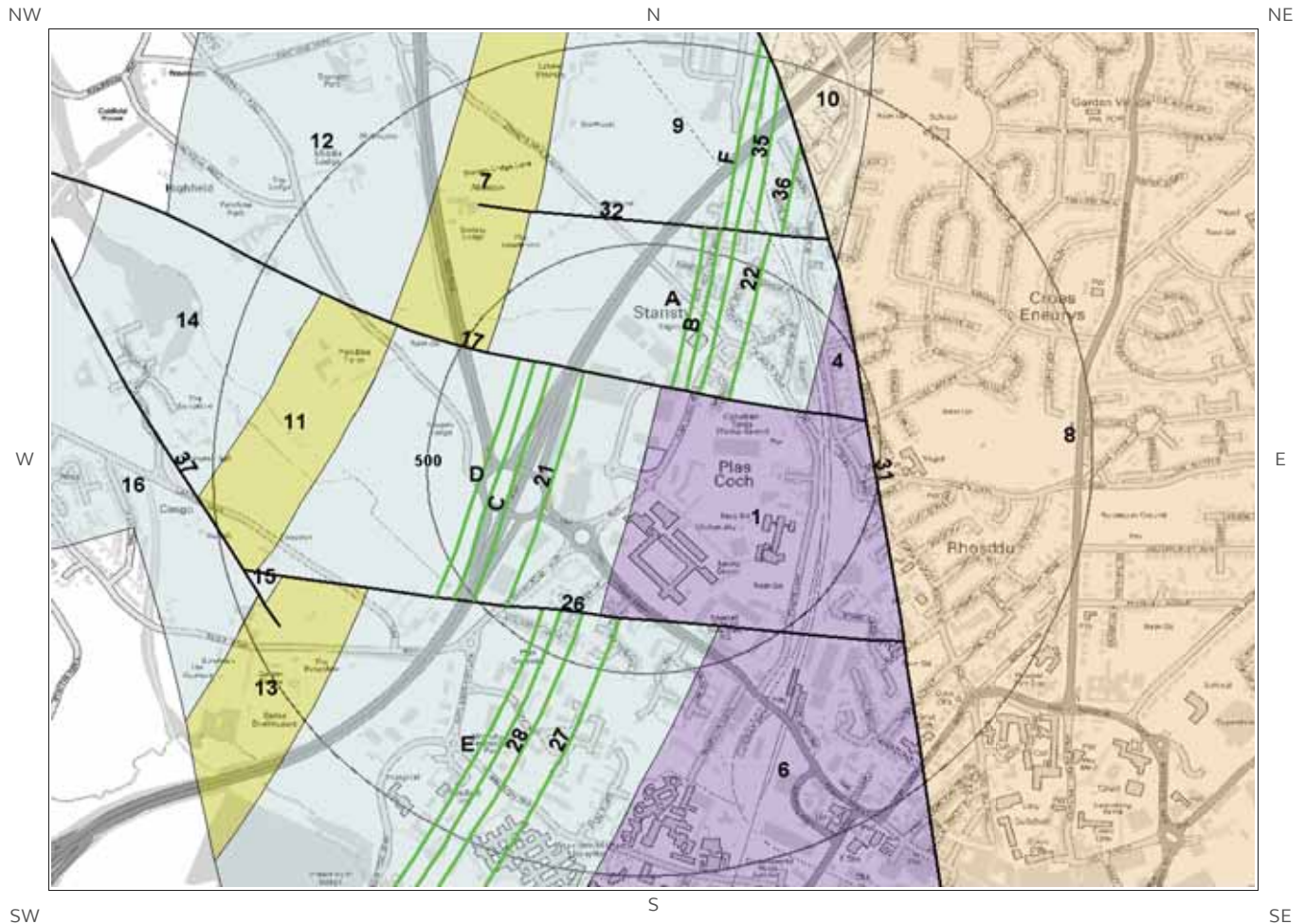
Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

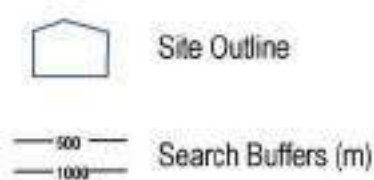
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and linear features map (1:10,000 scale)



Bedrock and linear features Legend

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1.3 Bedrock and linear features

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	ETM-MDST	Etruria Formation - Mudstone	Westphalian Age
2D	1.0	W	PLMC-MDSS	Pennine Lower Coal Measures Formation And Pennine Middle Coal Measures Formation (undifferentiated) - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Langsettian Sub-age
3A	153.0	N	PLMC-MDSS	Pennine Lower Coal Measures Formation And Pennine Middle Coal Measures Formation (undifferentiated) - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Langsettian Sub-age
4	339.0	E	ETM-MDST	Etruria Formation - Mudstone	Westphalian Age
5E	365.0	S	PLMC-MDSS	Pennine Lower Coal Measures Formation And Pennine Middle Coal Measures Formation (undifferentiated) - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Langsettian Sub-age
6	416.0	S	ETM-MDST	Etruria Formation - Mudstone	Westphalian Age
7	443.0	NW	PLMC-SDST	Pennine Lower Coal Measures Formation And Pennine Middle Coal Measures Formation (undifferentiated) - Sandstone	Bolsovian Sub-age - Langsettian Sub-age
8	472.0	E	SAL-MDSC	Salop Formation - Mudstone, Sandstone And Conglomerate	Cisuralian Epoch - Westphalian D Sub-age

1.3.2 Linear features

Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
17	153.0	N	FAULT	Normal fault, inferred
18A	154.0	N	ROCK	Coal seam, inferred
19B	155.0	N	ROCK	Coal seam, inferred
20B	160.0	NE	ROCK	Coal seam, inferred
21	190.0	W	ROCK	Coal seam, inferred
22	192.0	NE	ROCK	Coal seam, inferred
23C	273.0	W	ROCK	Coal seam, inferred
24C	312.0	W	ROCK	Coal seam, inferred
25D	347.0	W	ROCK	Coal seam, inferred
26	365.0	S	FAULT	Normal fault, inferred
27	366.0	S	ROCK	Coal seam, inferred
28	377.0	S	ROCK	Coal seam, inferred
29E	392.0	SW	ROCK	Coal seam, inferred

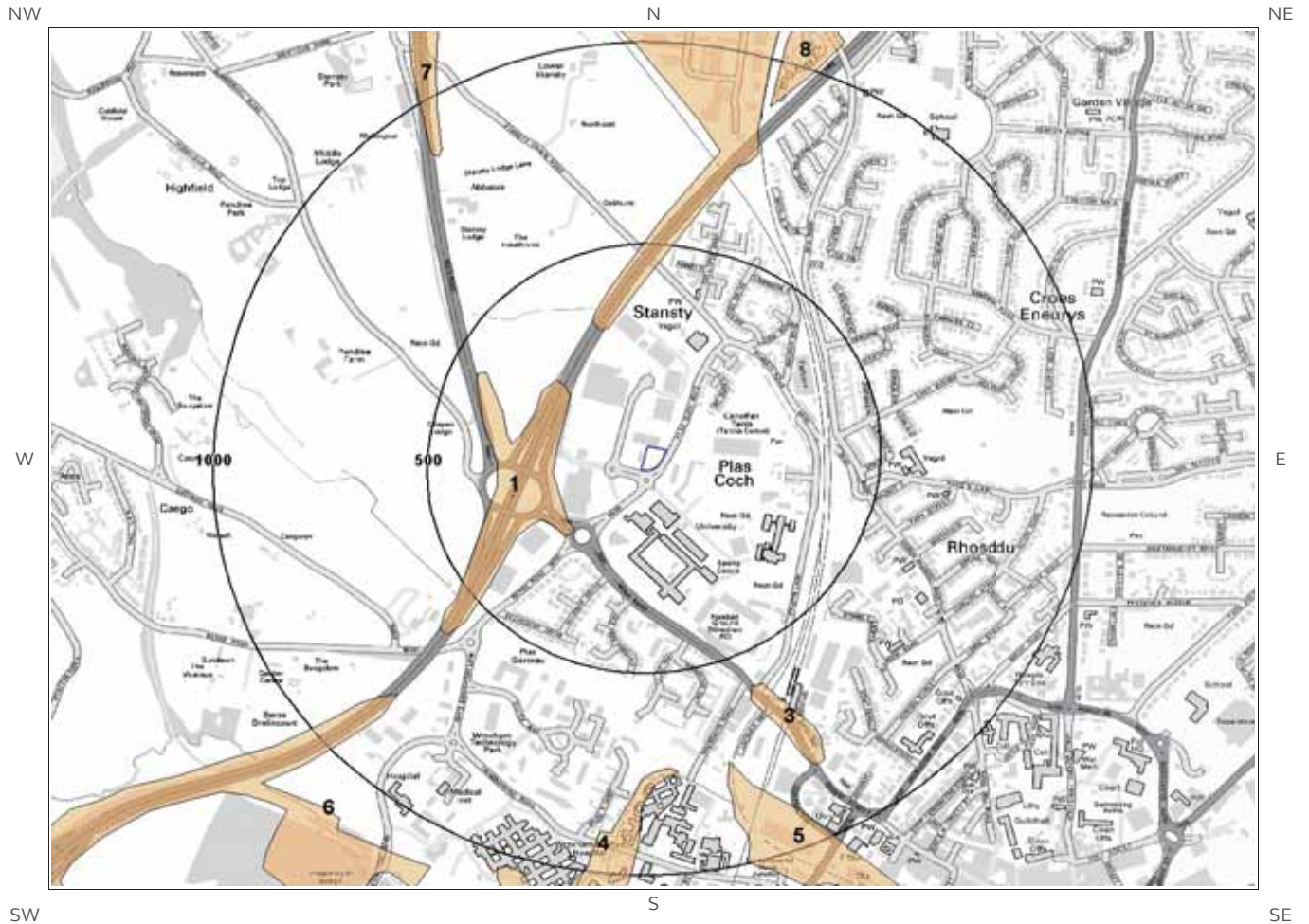
ID	Distance (m)	Direction	Category Description	Feature Description
30E	410.0	SW	ROCK	Coal seam, inferred
31	472.0	E	FAULT	Normal fault, inferred

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

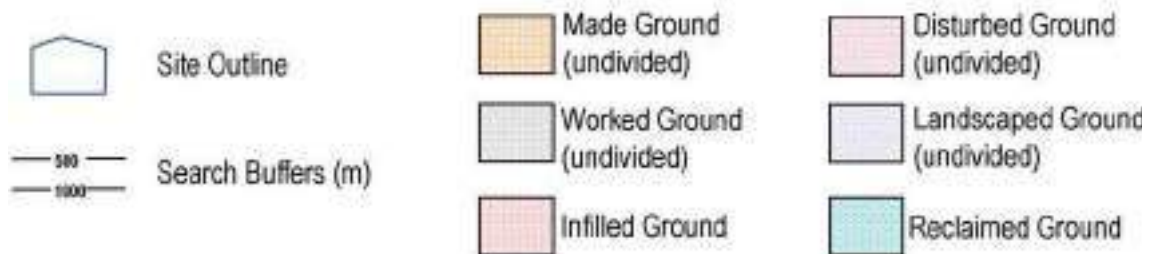
This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2 Geology 1:50,000 Scale

2.1 Artificial Ground map



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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 121

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

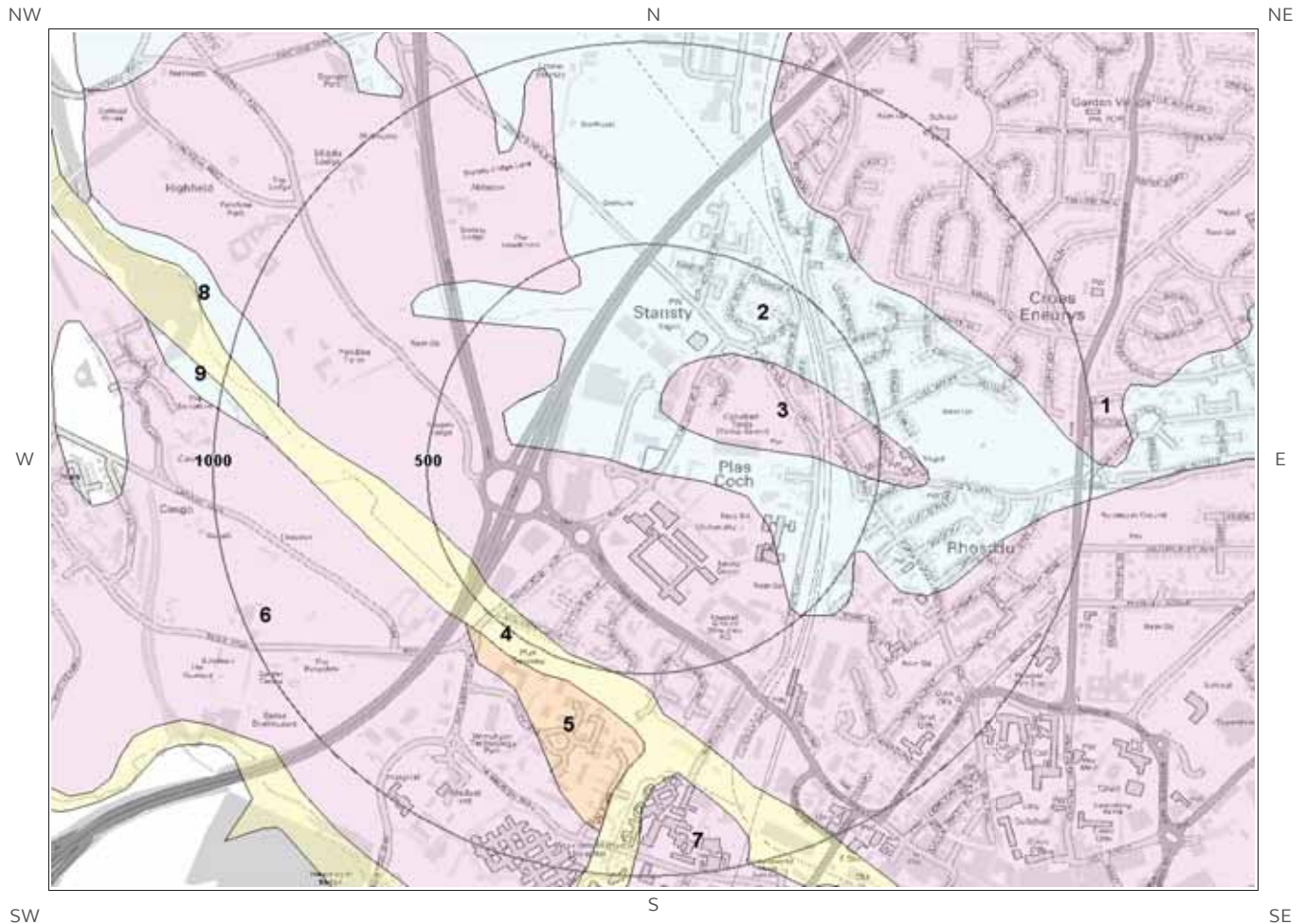
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	200.0	W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	307.0	N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

2.2 Superficial Deposits and Landslips map (1:50,000 scale)



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2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
2	0.0	On Site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	68.0	NE	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
4	452.0	SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	High
0.0	On Site	Mixed	High	Low

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

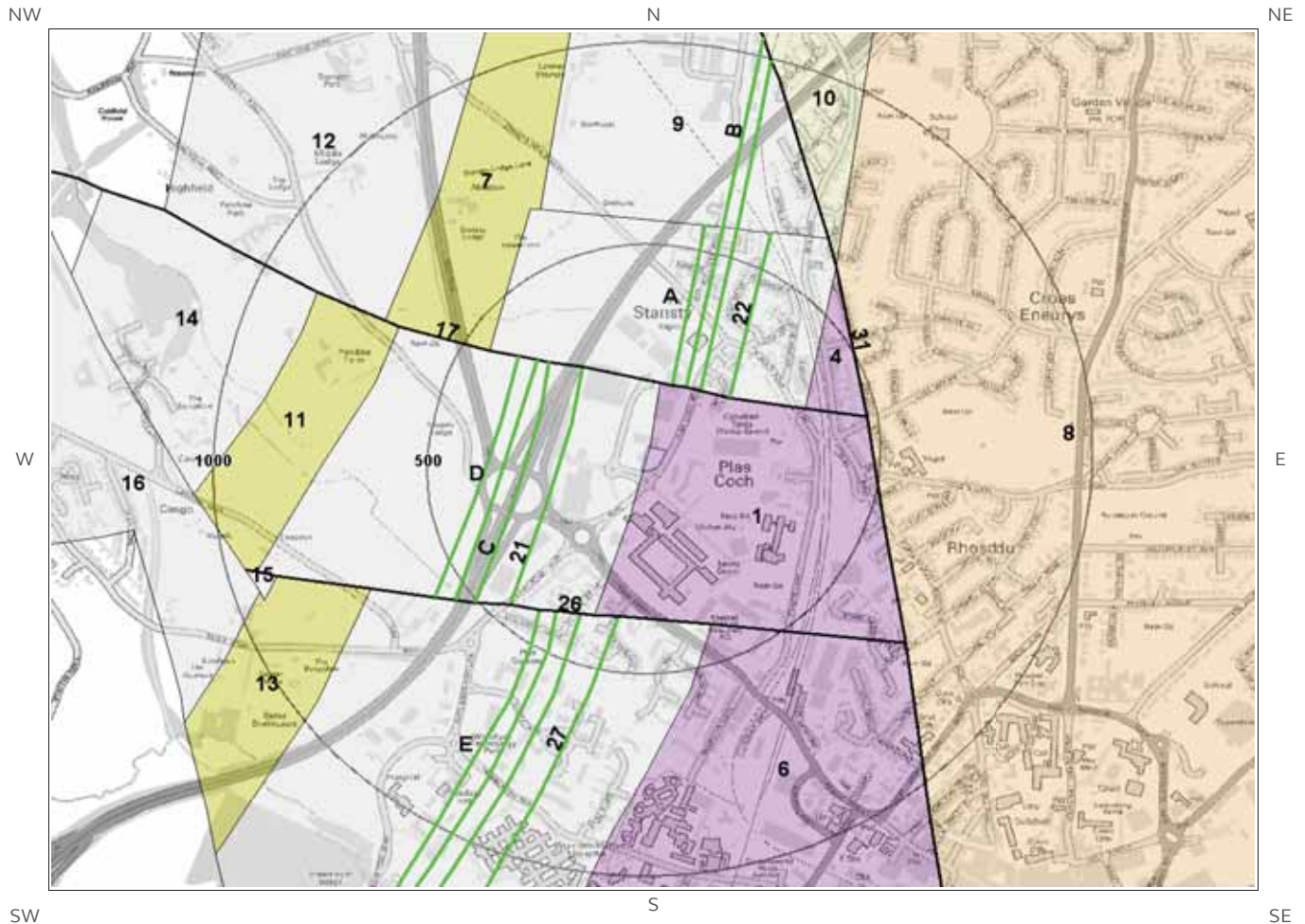
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary? No

Database searched and no data found.

2.3 Bedrock and linear features map (1:50,000 scale)



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2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 121

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	ETM-MDST	ETRURIA FORMATION - MUDSTONE	WESTPHALIAN
2D	0.0	On Site	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3A	159.0	N	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	340.0	E	ETM-MDST	ETRURIA FORMATION - MUDSTONE	WESTPHALIAN
5E	362.0	S	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	406.0	S	ETM-MDST	ETRURIA FORMATION - MUDSTONE	WESTPHALIAN
7	438.0	NW	PLMC-SDST	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - SANDSTONE	WESTPHALIAN
8	476.0	E	SAL-MDSC	SALOP FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Low	Low
0.0	On Site	Fracture	Moderate	Low

2.3.3 Linear features

Are there any records of linear features within 500m of the study site boundary?

Yes

ID	Distance	Direction	Category Description	Feature Description
17	159.0	N	FAULT	Fault, inferred, displacement unknown
18A	160.0	N	ROCK	Coal seam, inferred
19B	163.0	N	ROCK	Coal seam, inferred
20B	168.0	NE	ROCK	Coal seam, inferred
21	186.0	W	ROCK	Coal seam, inferred
22	198.0	NE	ROCK	Coal seam, inferred
23C	262.0	W	ROCK	Coal seam, inferred
24C	307.0	W	ROCK	Coal seam, inferred
25D	346.0	W	ROCK	Coal seam, inferred
26	362.0	S	FAULT	Fault, inferred, displacement unknown
27	363.0	S	ROCK	Coal seam, inferred
28E	379.0	S	ROCK	Coal seam, inferred
29E	399.0	SW	ROCK	Coal seam, inferred
30E	418.0	SW	ROCK	Coal seam, inferred
31	476.0	E	FAULT	Fault, inferred, displacement unknown

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

3.1 Radon Affected Areas

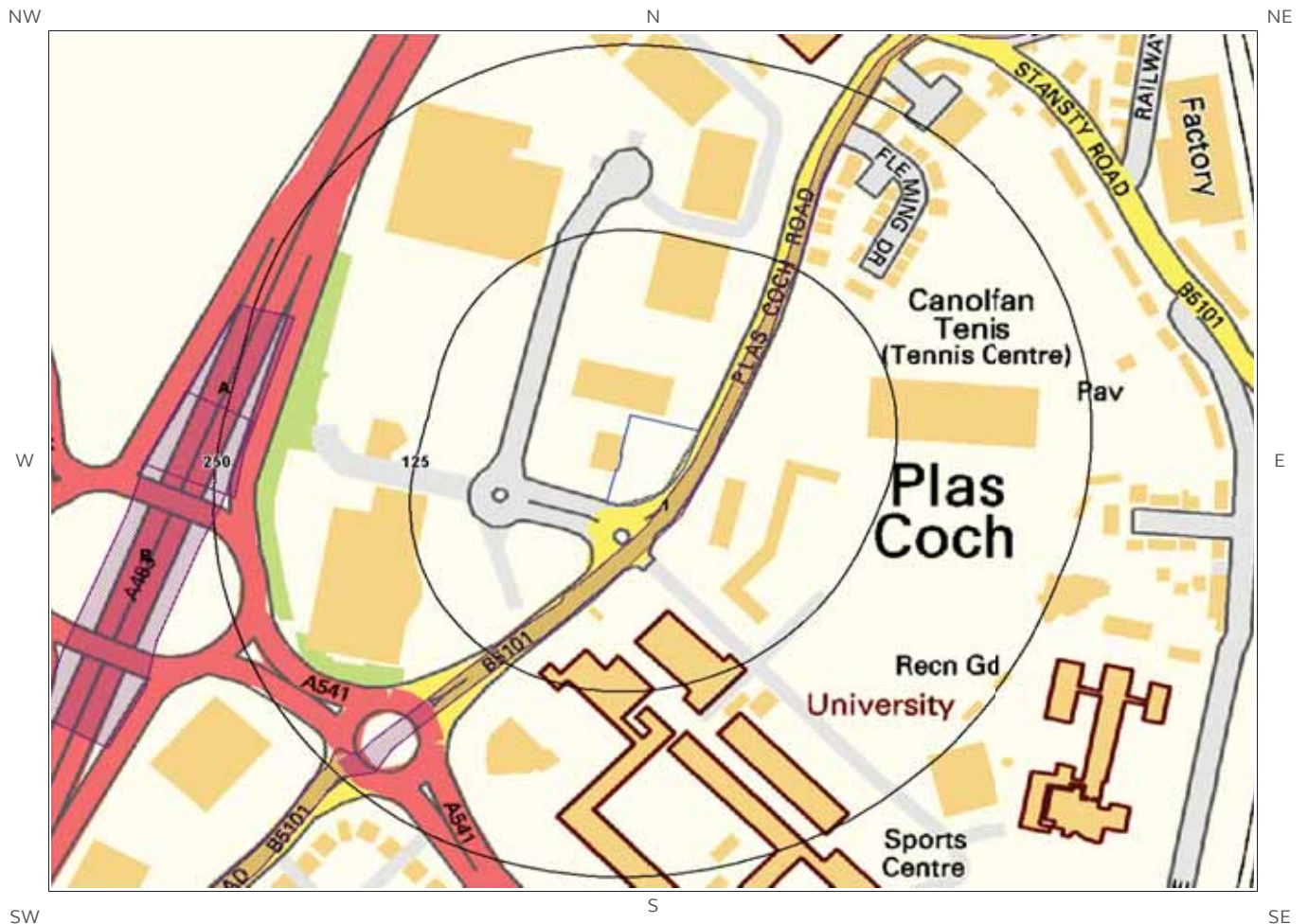
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

3.2 Radon Protection

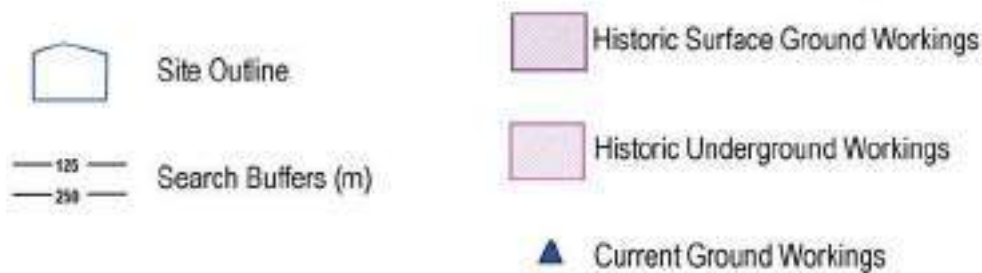
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? Full radon protective measures are necessary.

4 Ground Workings map



Ground Workings Legend

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4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1	3.0	SE	331965 350615	Canal	1872
2A	223.0	W	332361 351441	Cuttings	1980
3A	223.0	W	332361 351441	Cuttings	1974
4B	232.0	W	332315 351327	Cuttings	1992
5B	232.0	W	332315 351327	Cuttings	1989
6B	232.0	W	332315 351327	Cuttings	1985

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	669.0	N	332862 352219	Colliery	1939
Not shown	707.0	N	332841 352109	Unspecified Shaft	1872
Not shown	723.0	N	332804 352134	Unspecified Shafts	1872
Not shown	768.0	N	332719 352352	Unspecified Disused Mine	1974
Not shown	768.0	N	332719 352352	Unspecified Disused Mine	1964
Not shown	793.0	N	332847 352196	Unspecified Shafts	1872

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	834.0	N	332858 352236	Unspecified Shaft	1872
Not shown	835.0	N	332855 352239	Unspecified Disused Shaft	1992

4.3 Current Ground Workings

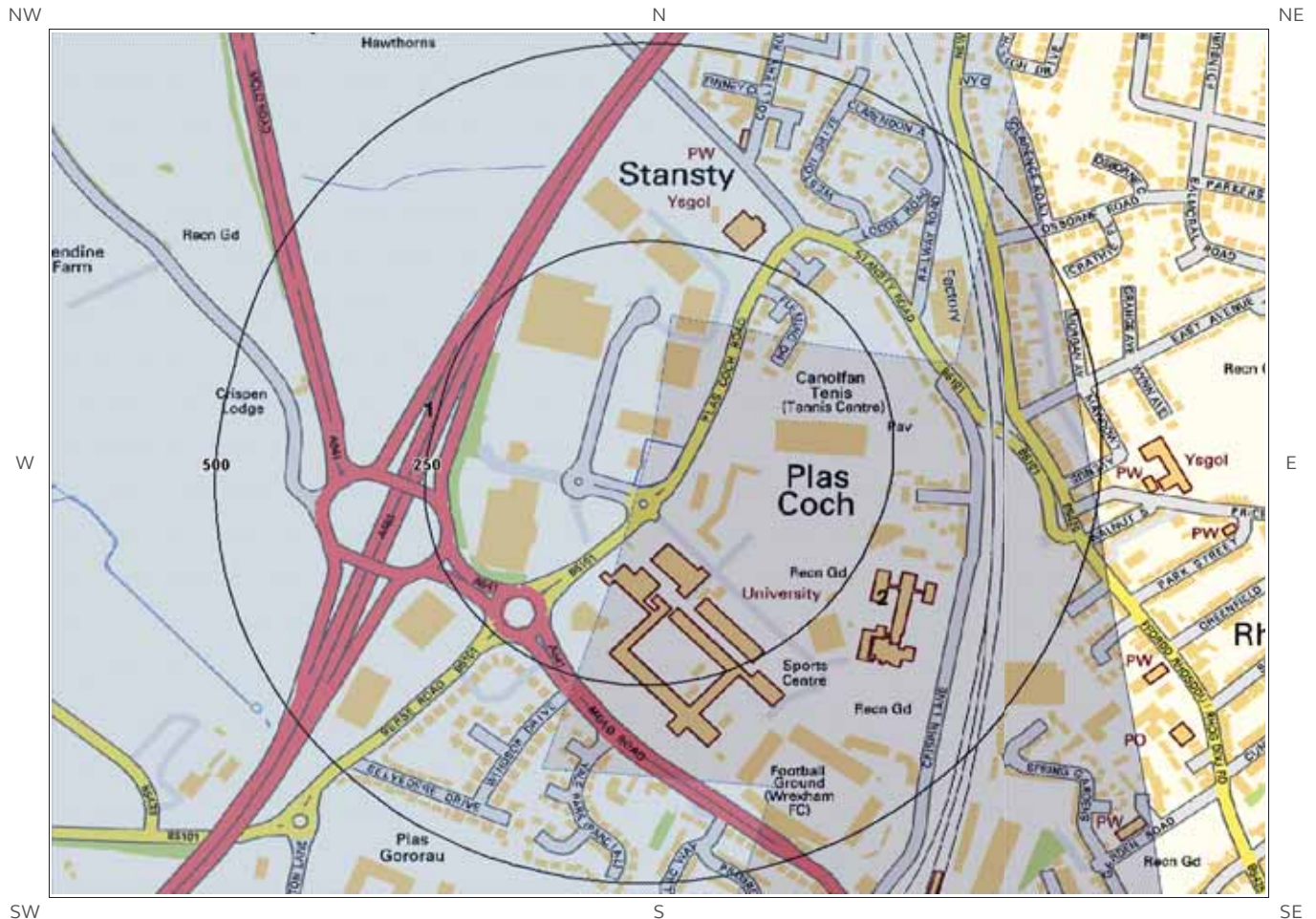
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	857.0	NE	333031 352197	Sand	Wrexham Colliery Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities map



Mining, Extraction and
Natural Cavities Legend

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5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
Not shown	669.0	N	332862 352219	Colliery	1939
Not shown	707.0	N	332841 352109	Unspecified Shaft	1872
Not shown	723.0	N	332804 352134	Unspecified Shafts	1872
Not shown	768.0	N	332719 352352	Unspecified Disused Mine	1974
Not shown	768.0	N	332719 352352	Unspecified Disused Mine	1964
Not shown	793.0	N	332847 352196	Unspecified Shafts	1872
Not shown	834.0	N	332858 352236	Unspecified Shaft	1872
Not shown	835.0	N	332855 352239	Unspecified Disused Shaft	1992

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
2	0.0	On Site	Not available	Vein Mineral	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on the Peter Brett Associates natural cavities database. The dataset is made up of points and polygons. Where polygons are used these represent an area in which it is expected the cavities could be found. It does not indicate that cavities are present everywhere within the polygon, and caution should be used in the interpretation of this data.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

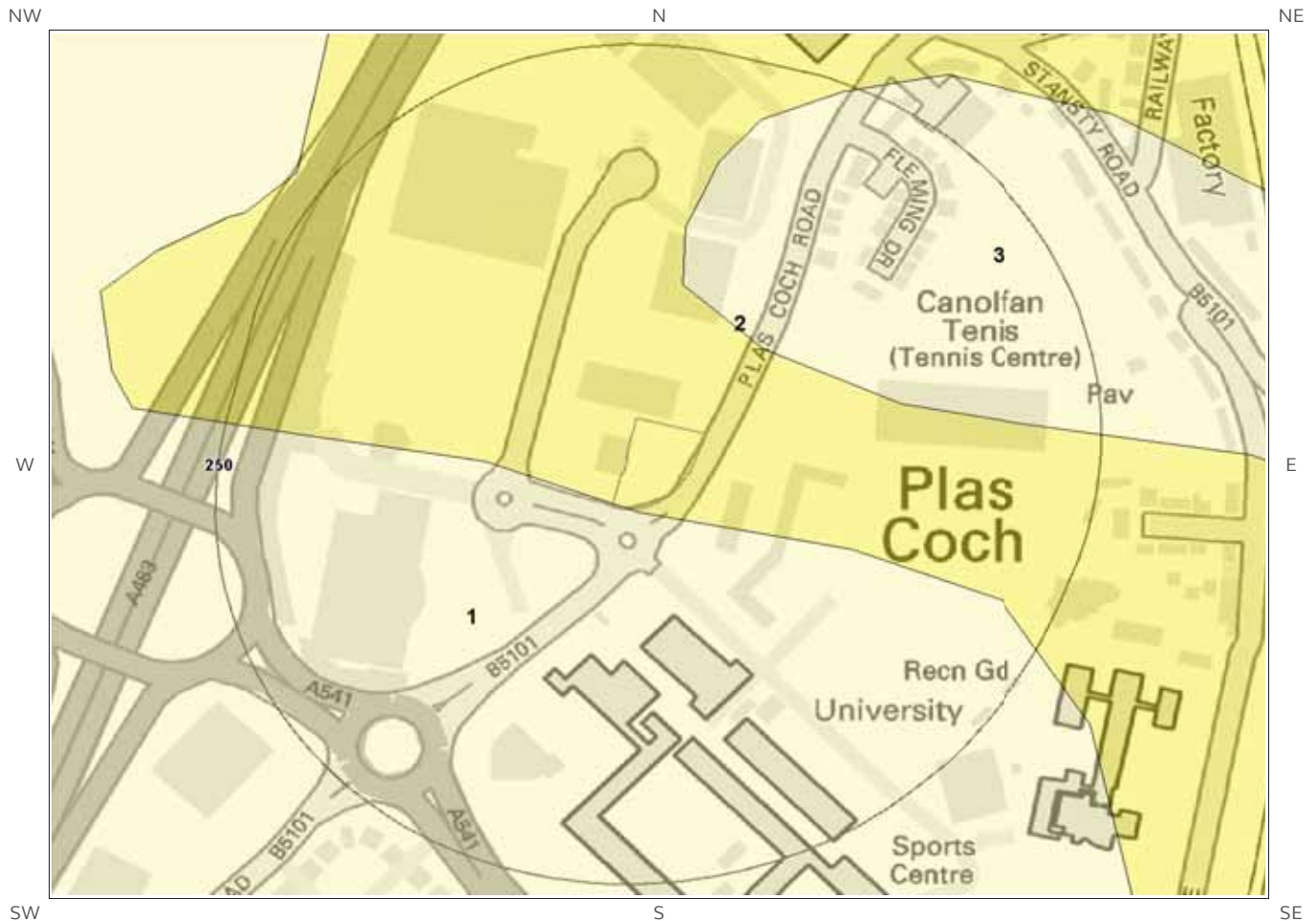
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

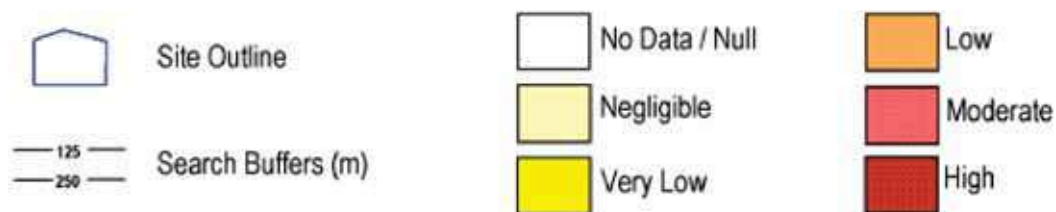
6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map

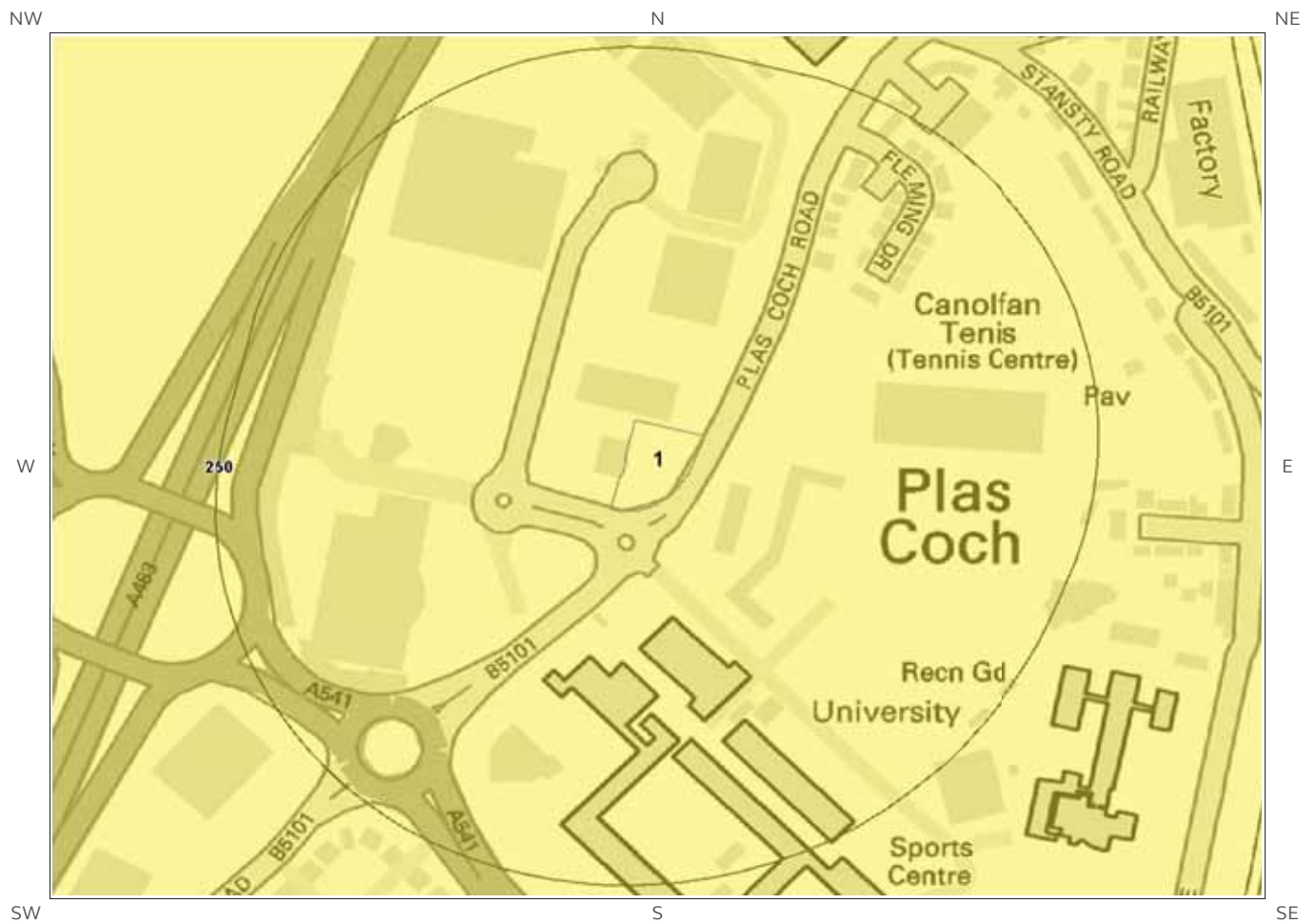


Shrink Swell Clay Legend

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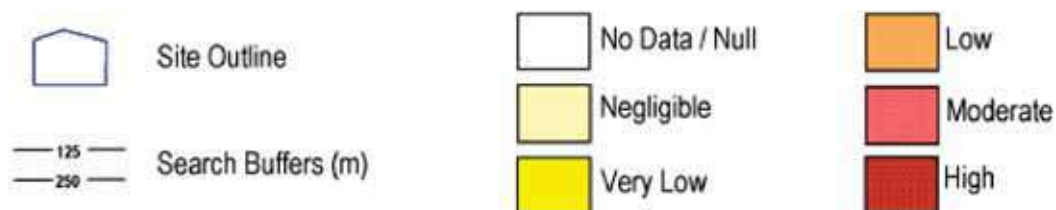


6.2 Landslides map

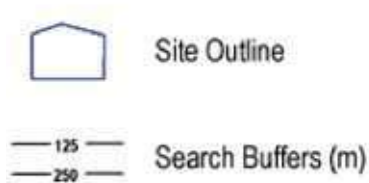
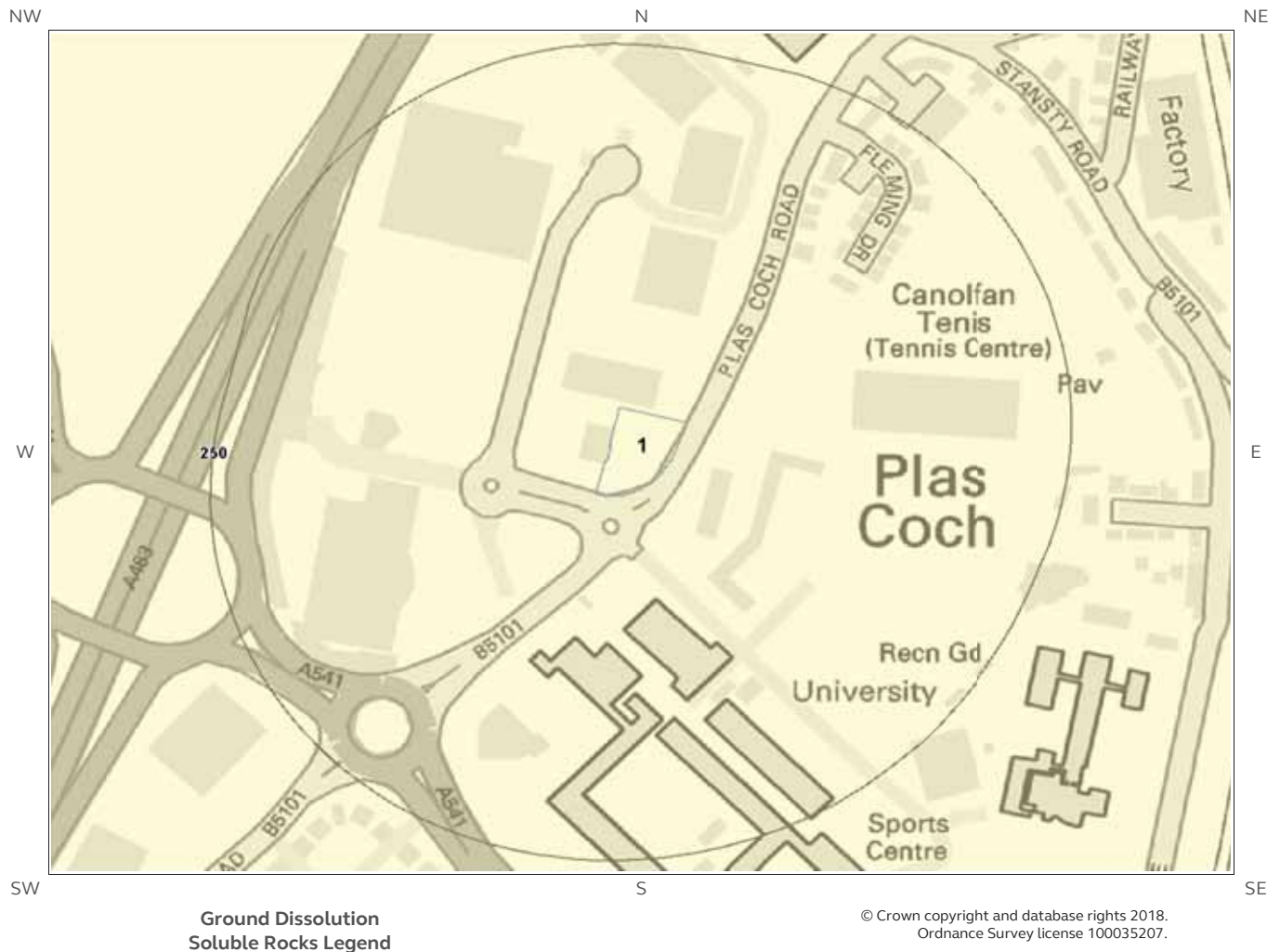


Landslides Legend

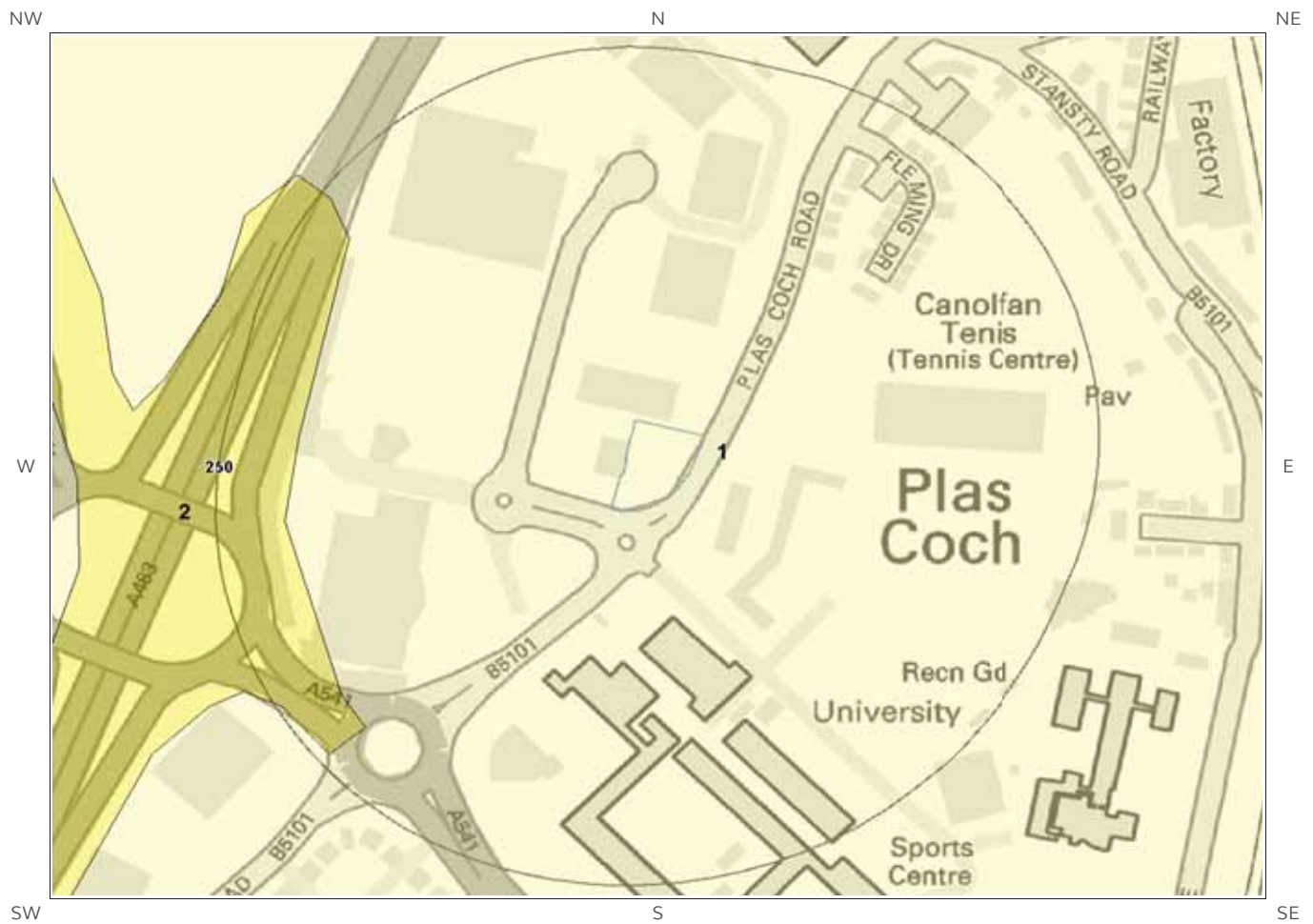
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6.3 Ground Dissolution of Soluble Rocks map

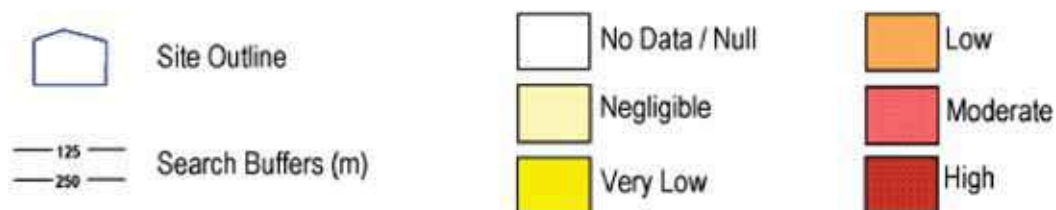


6.4 Compressible Deposits map

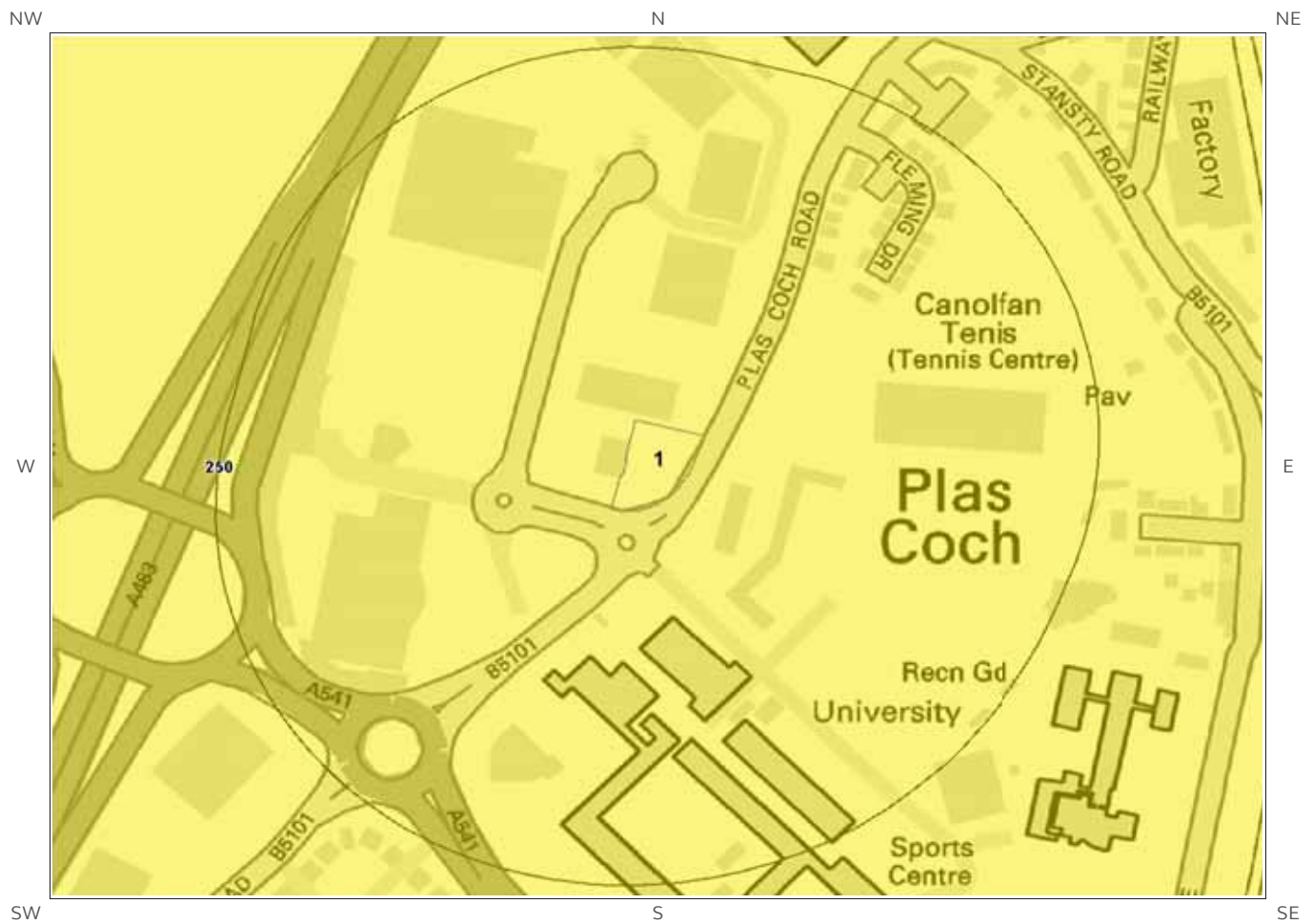


Compressible Deposits Legend

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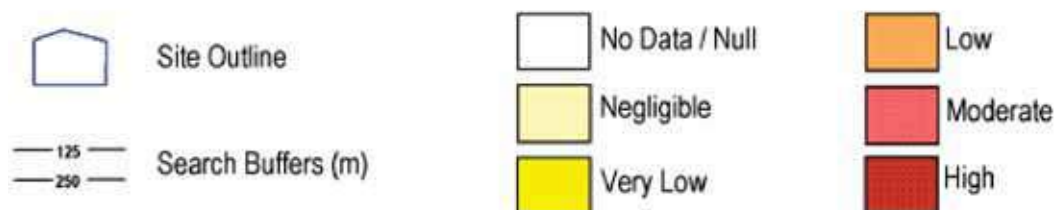


6.5 Collapsible Deposits map

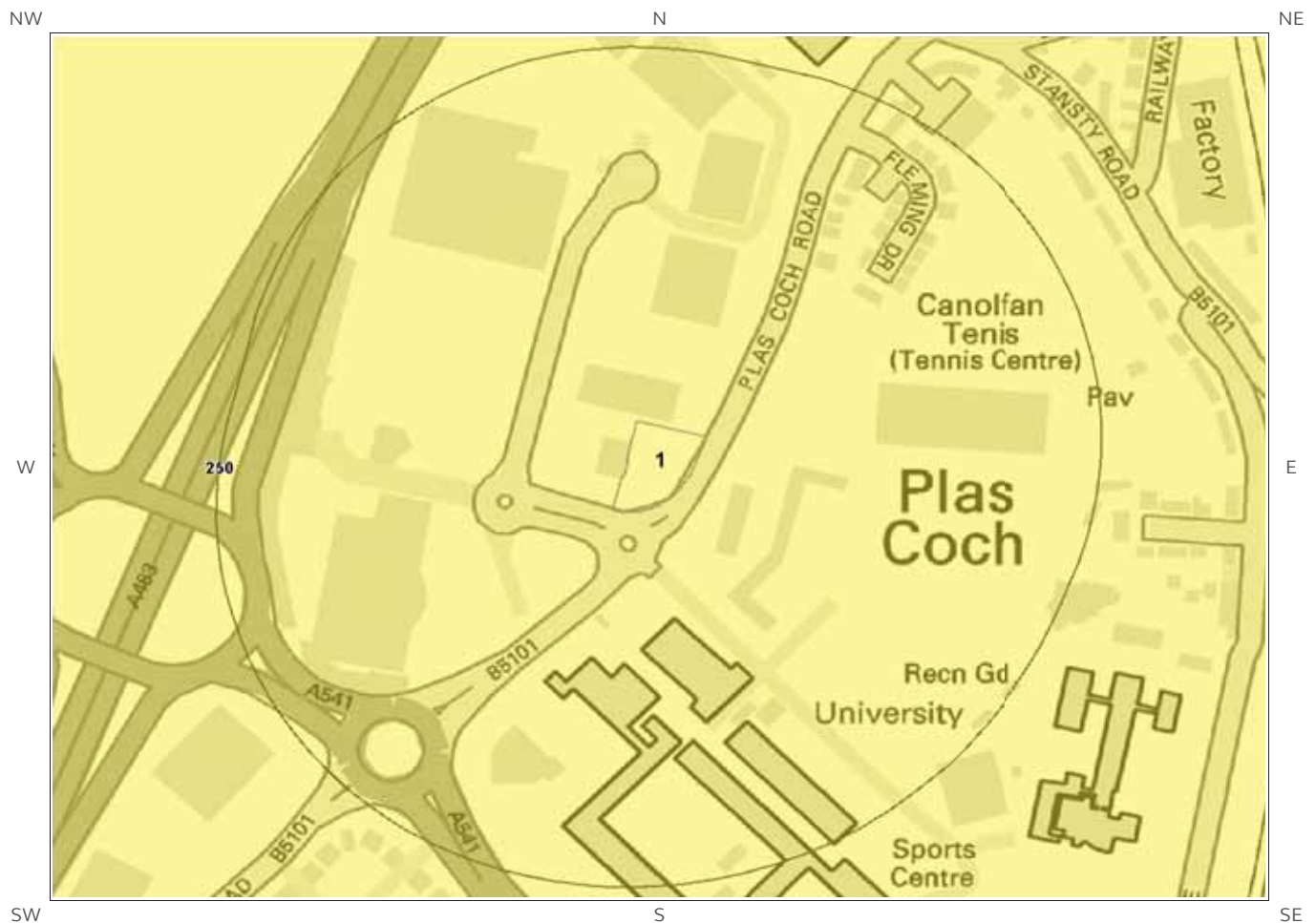


Collapsible Deposits Legend

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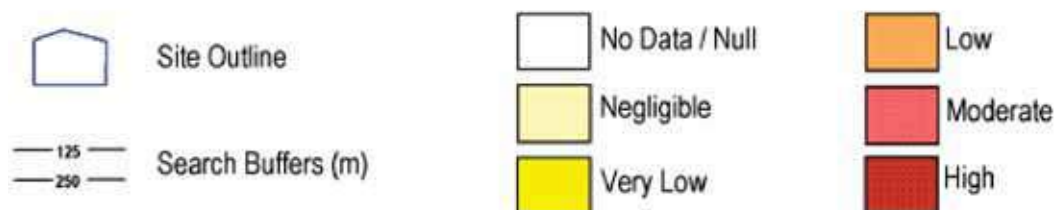


6.6 Running Sand map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Very Low**

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

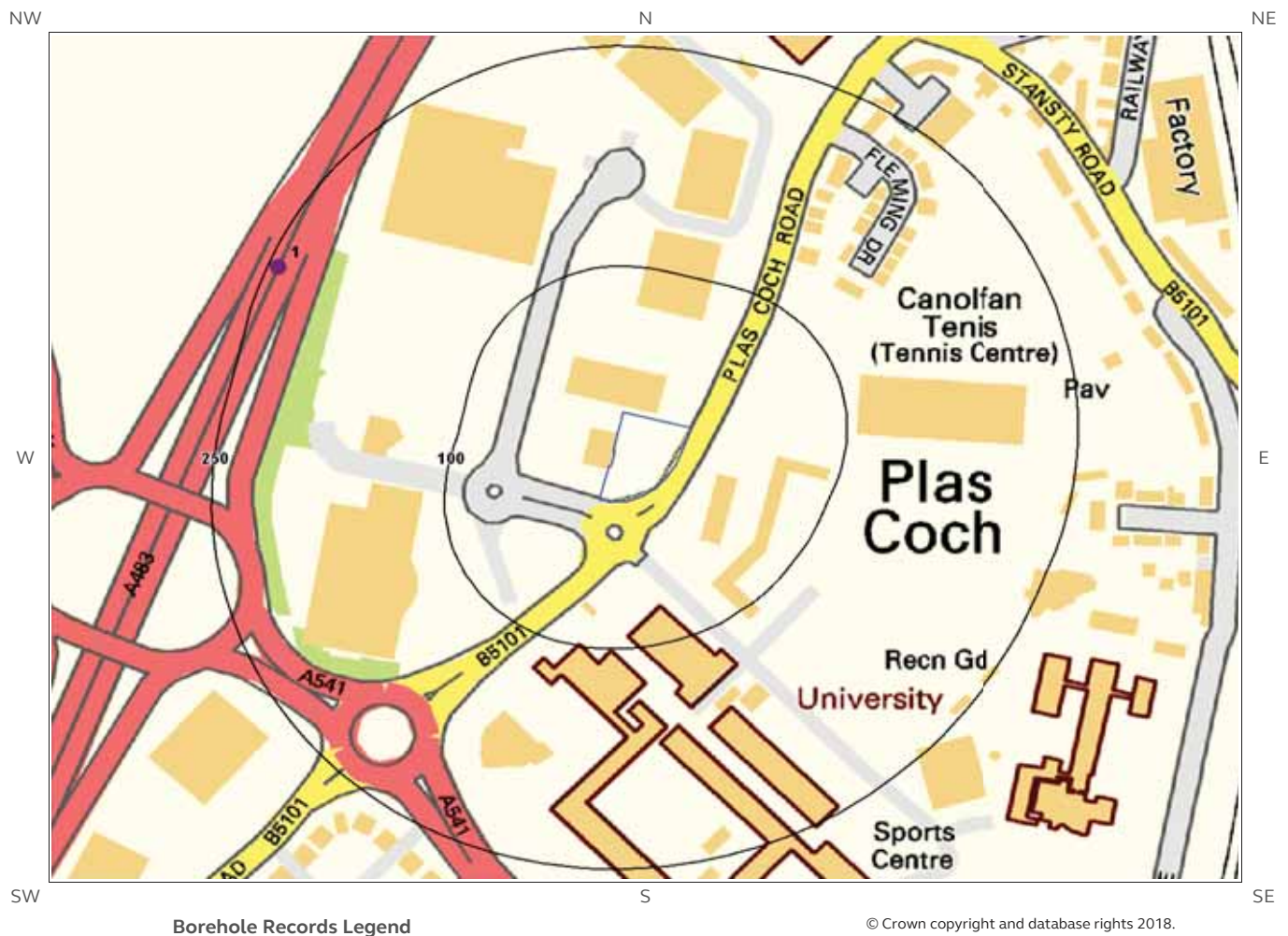
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records map



7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

1

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	243.0	NW	332400 351530	SJ35SW781	3.2	WREXHAM BY-PASS A483 55

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/155641

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

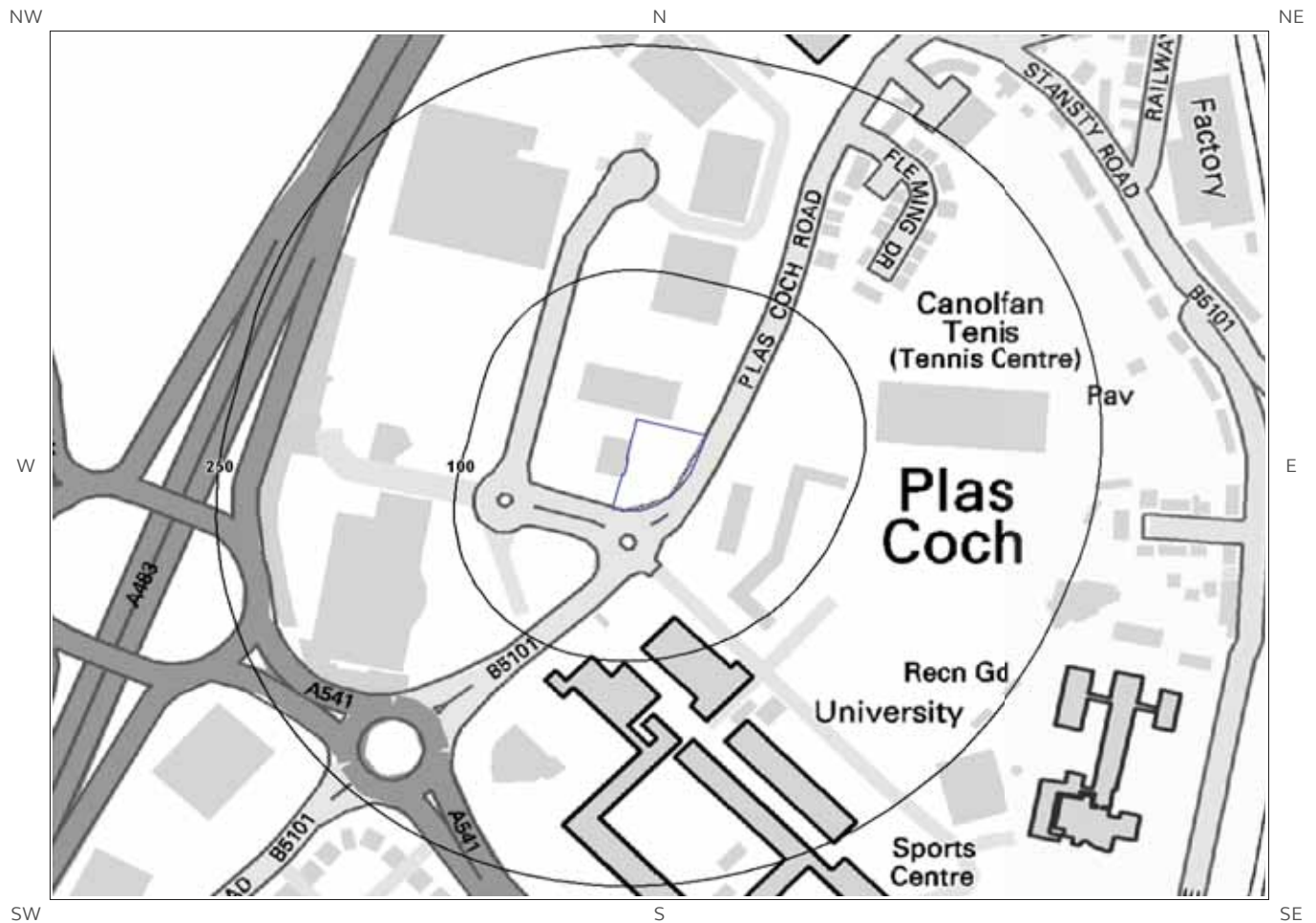
4

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg

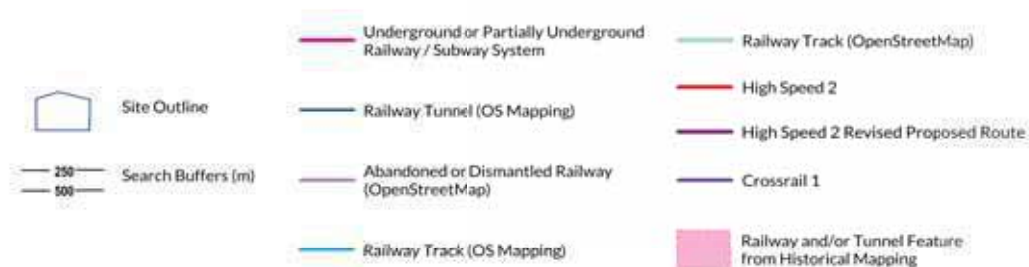
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels map



Railways and Tunnels Legend

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9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

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Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



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The Coal Authority

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<https://www.gov.uk/government/organisations/public-health-england>
Email: enquiries@phe.gov.uk
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Site Details:

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Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: County Series

Map date: 1898

Scale: 1:10,560

Printed at: 1:10,560



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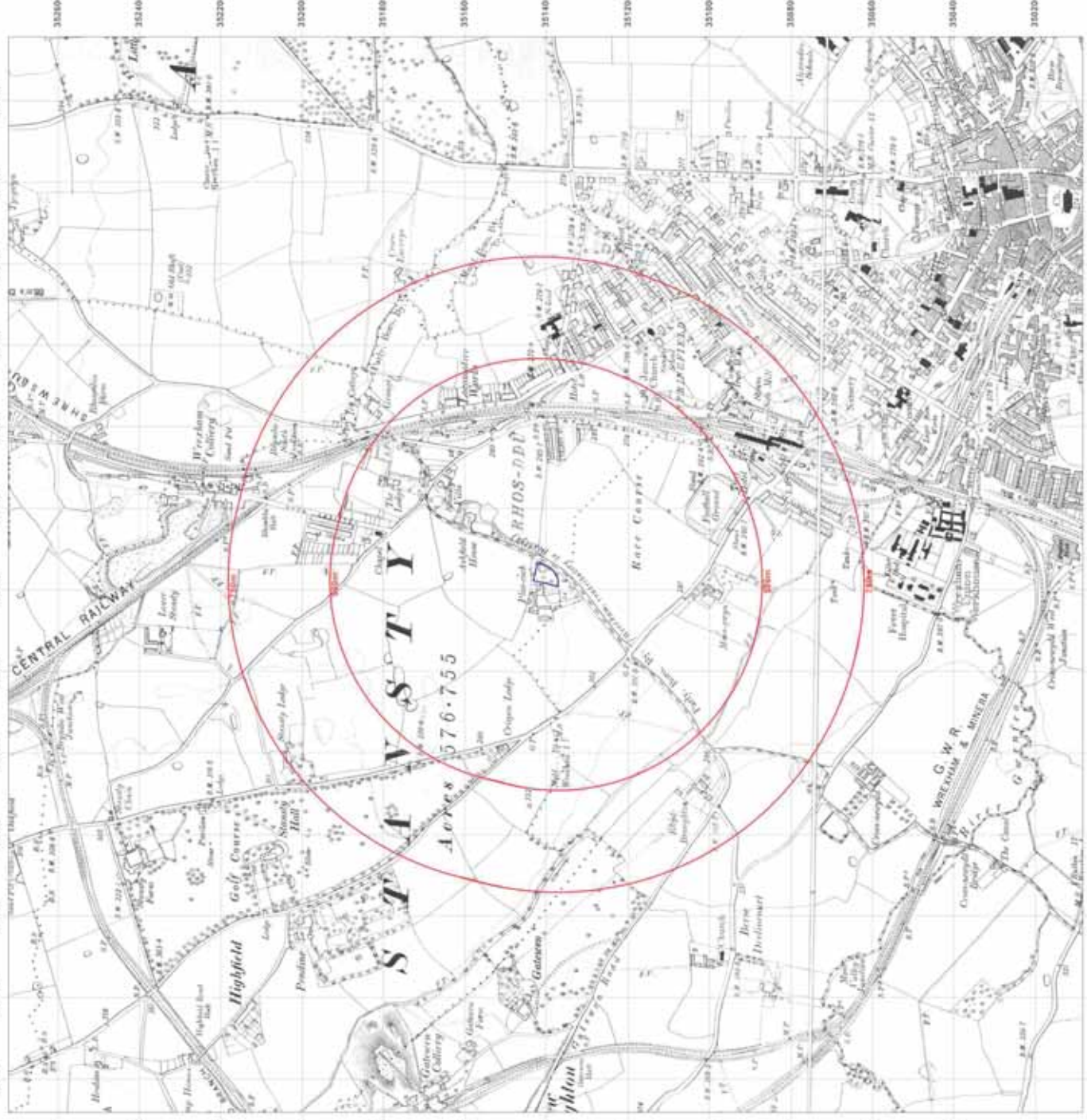


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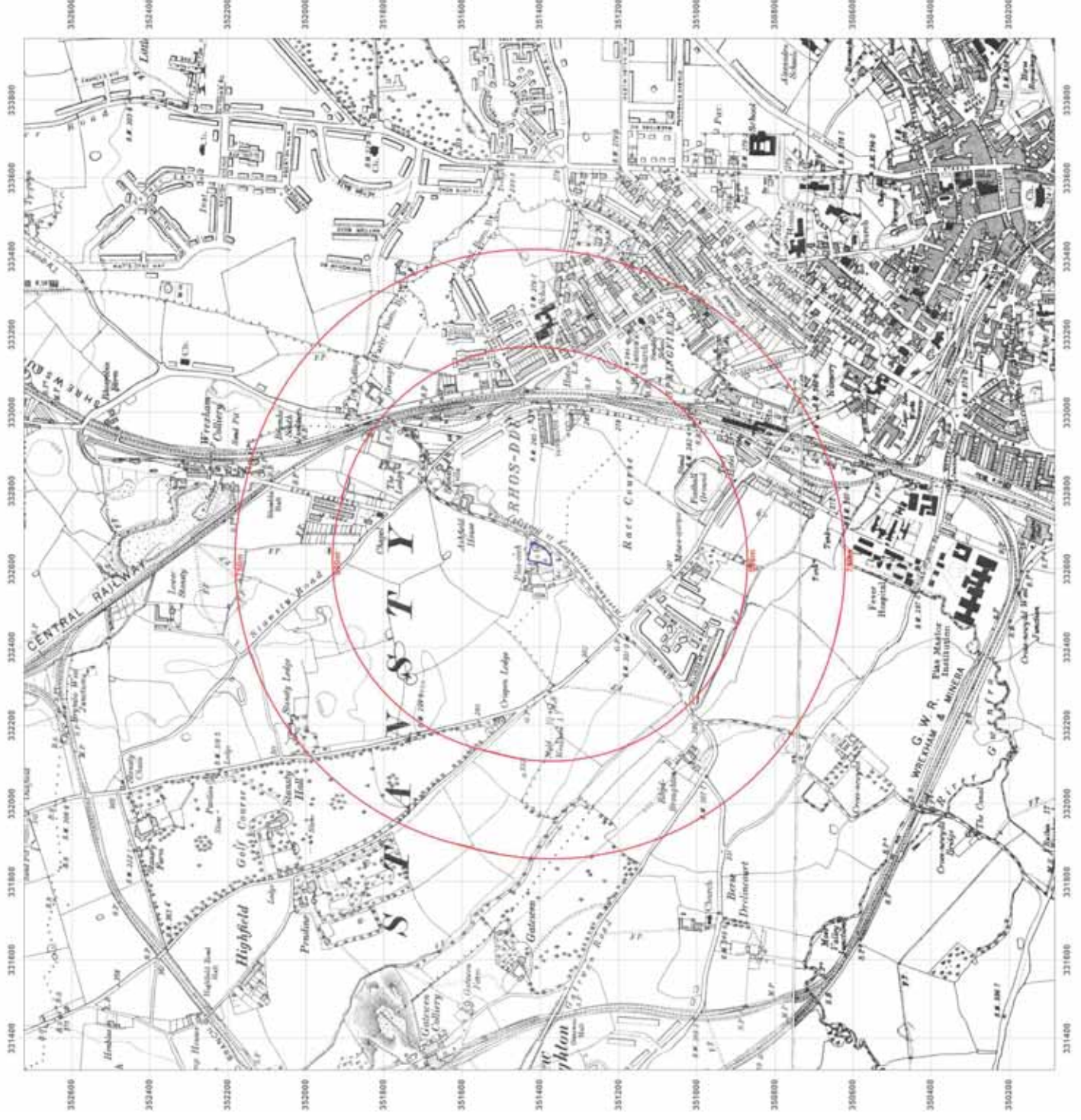
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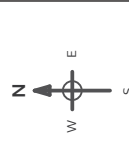
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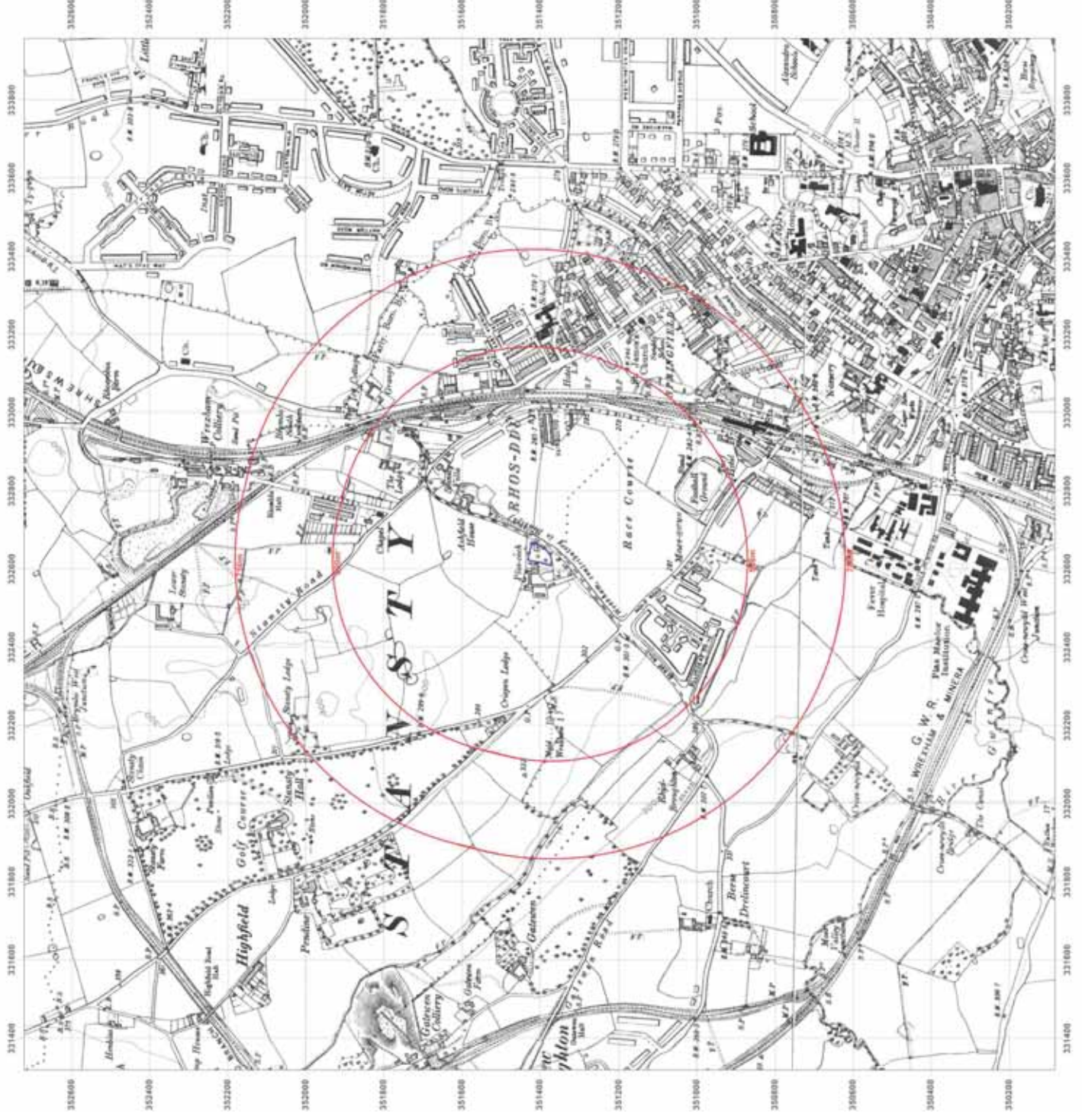
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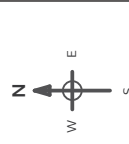
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Grid Ref: 332637, 351401

Map Name: County Series

Map date: 1949

Scale: 1:10,560

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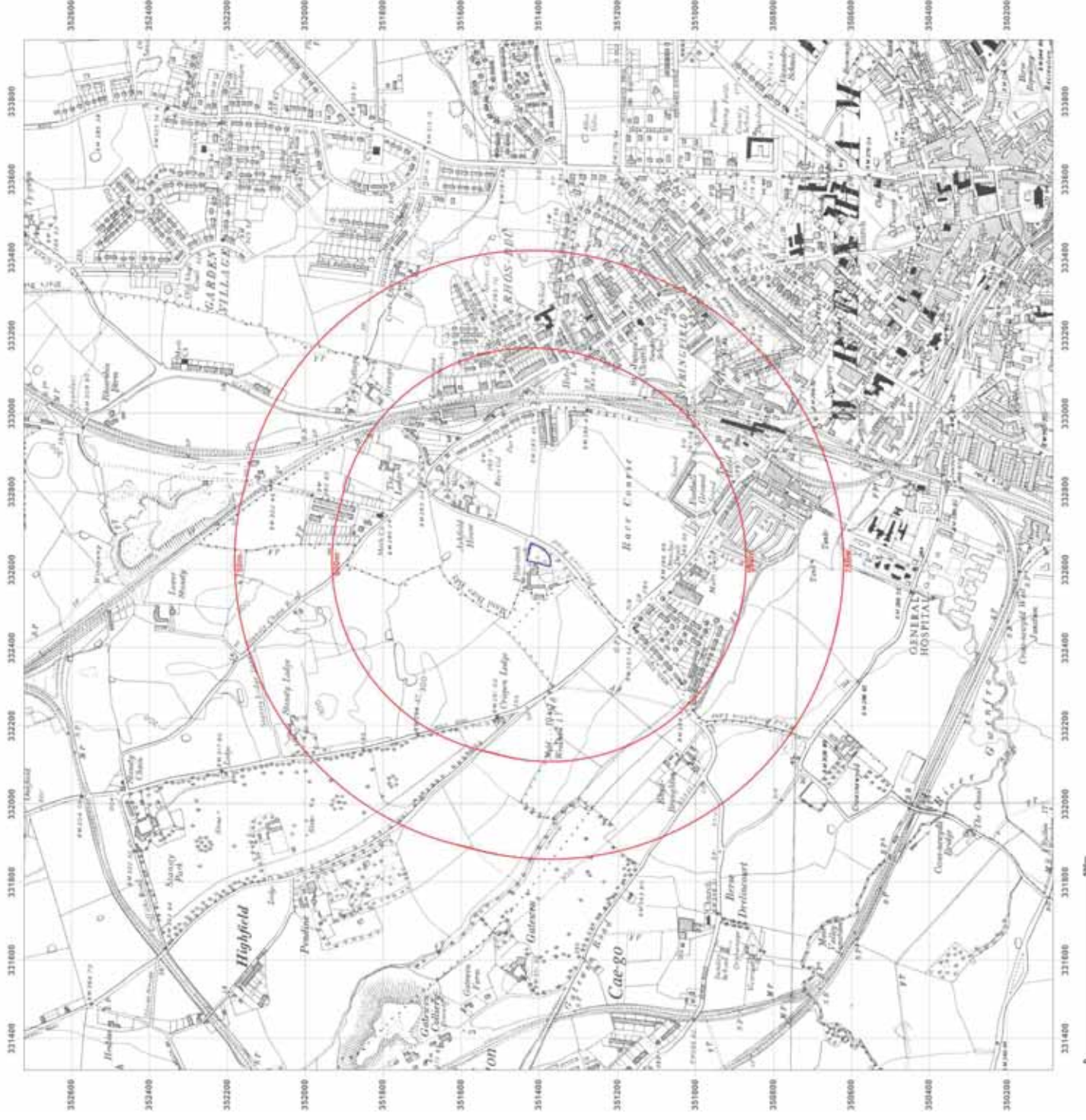
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Grid Ref: 332637, 351401

Map Name: Provisional

Map date: 1964

Scale: 1:10,560

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Revised 1954
Edition 2005
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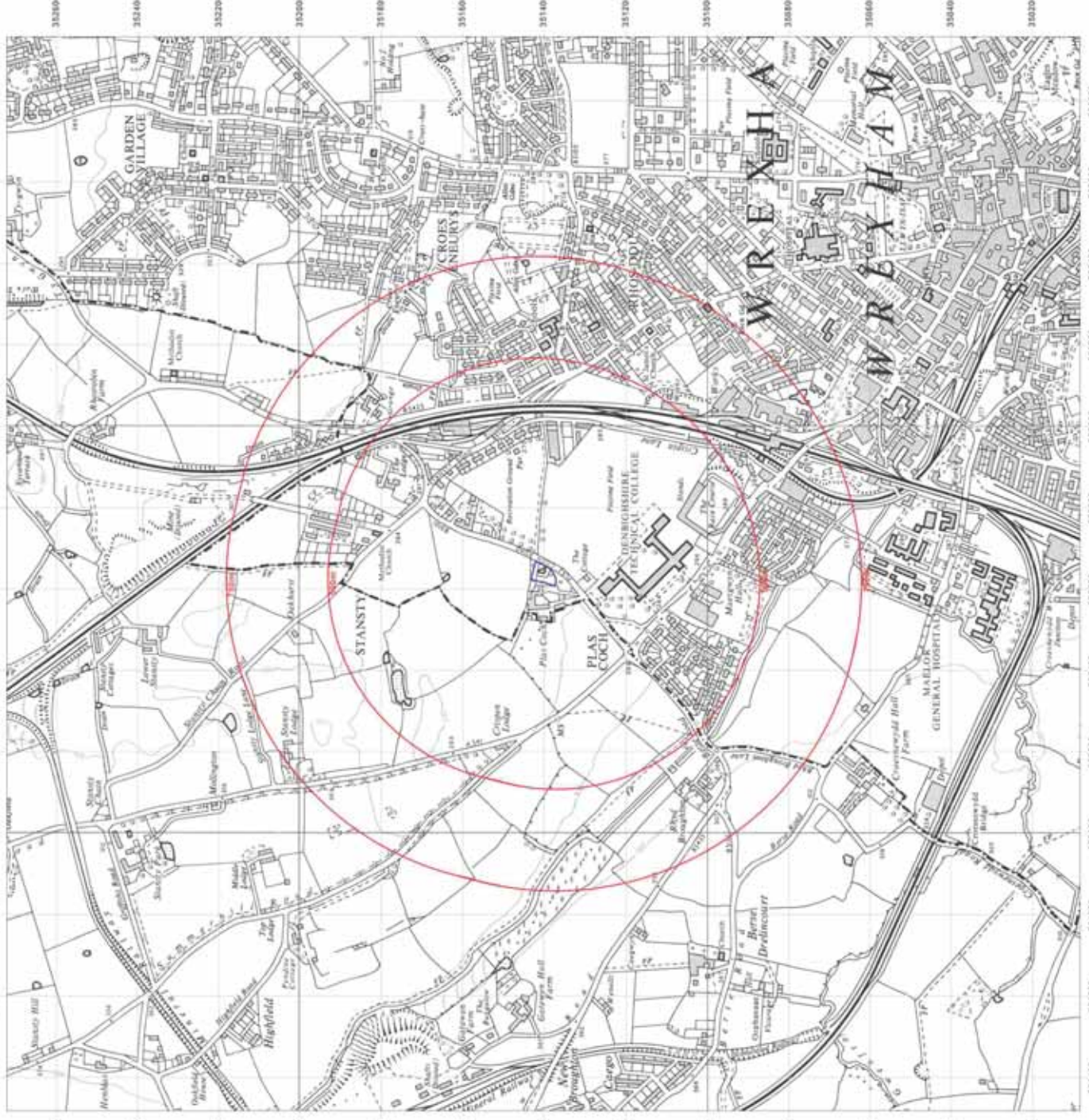


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Site Details:

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Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1974

Scale: 1:10,000

Printed at: 1:10,000



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Revised 1974
Edition N/A
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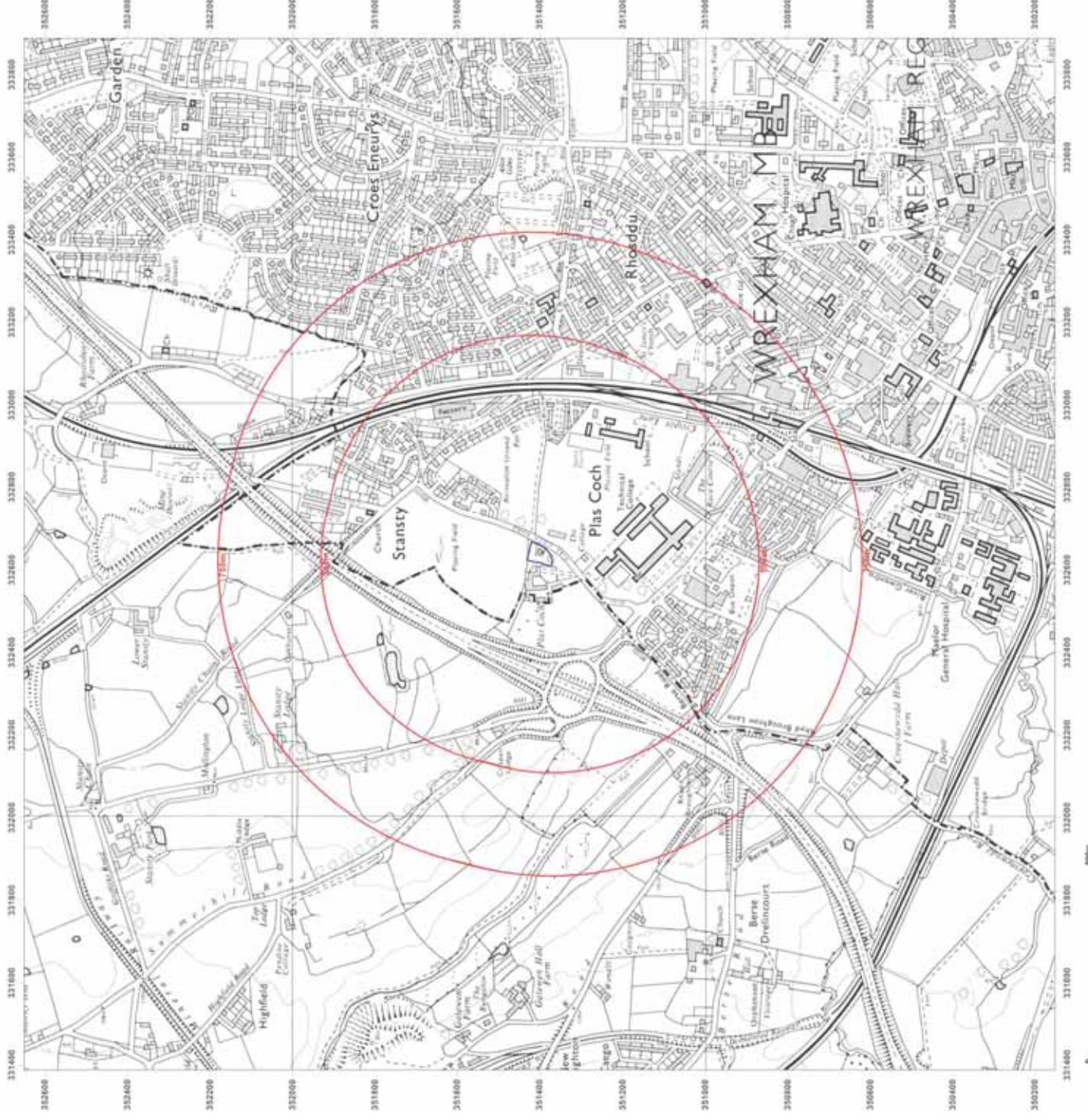
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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1980

Scale: 1:10,000

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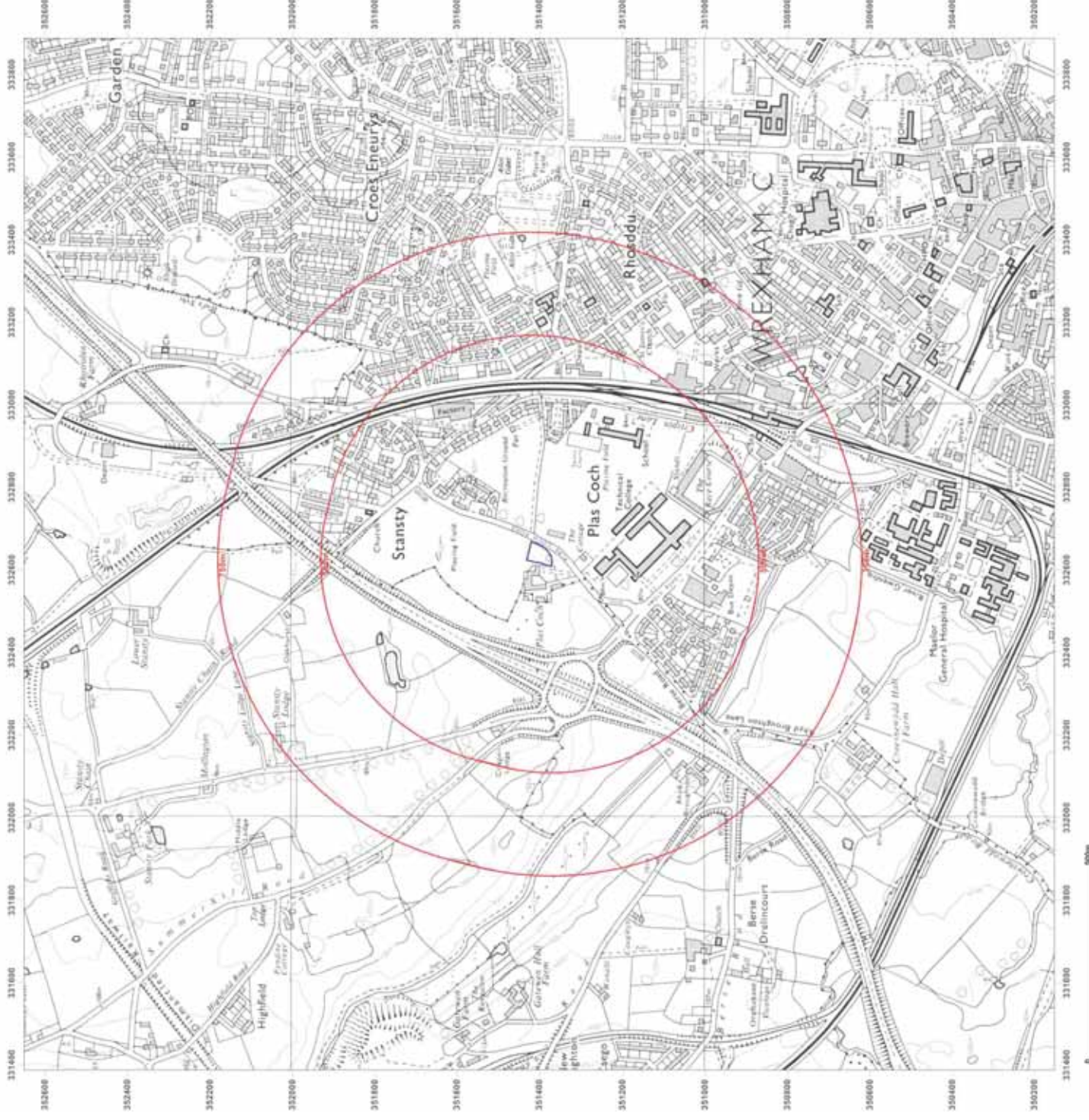
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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1985

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1985
Revised 1985
Edition N/A
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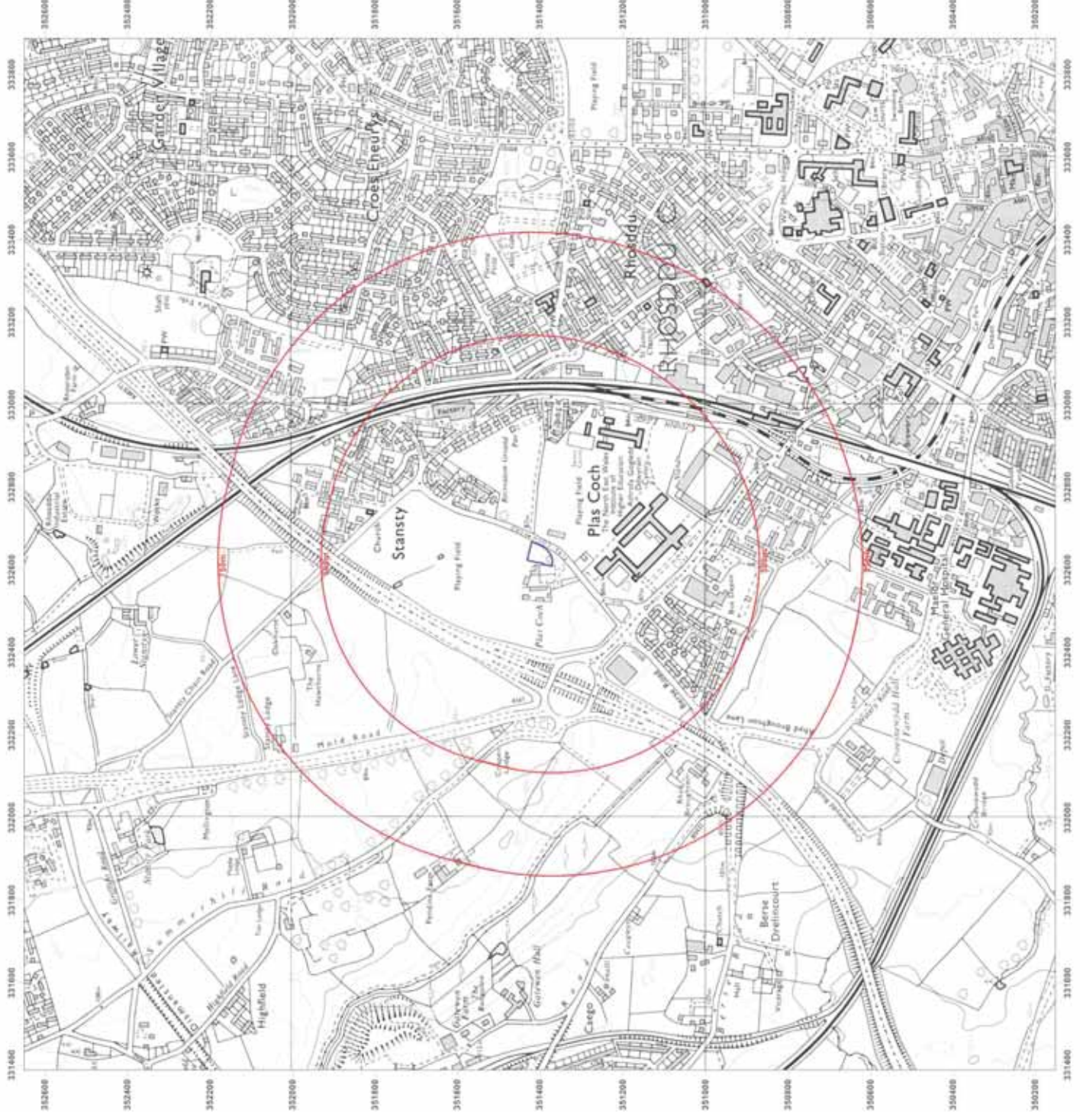
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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1989

Scale: 1:10,000

Printed at: 1:10,000



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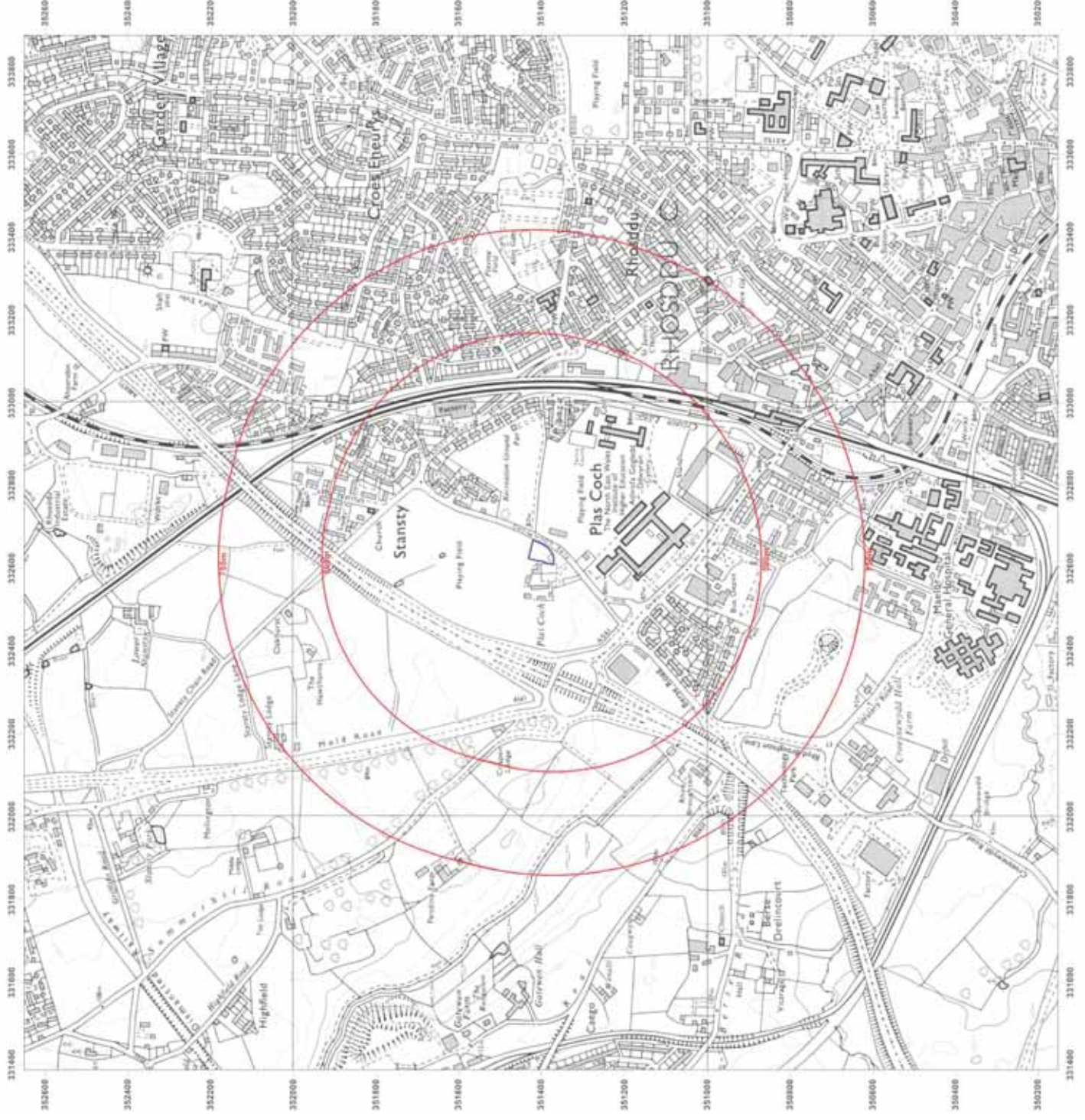
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Production date: 06 February 2018

Map legend available at:

www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1992

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1990
Revised 1992
Edition N/A
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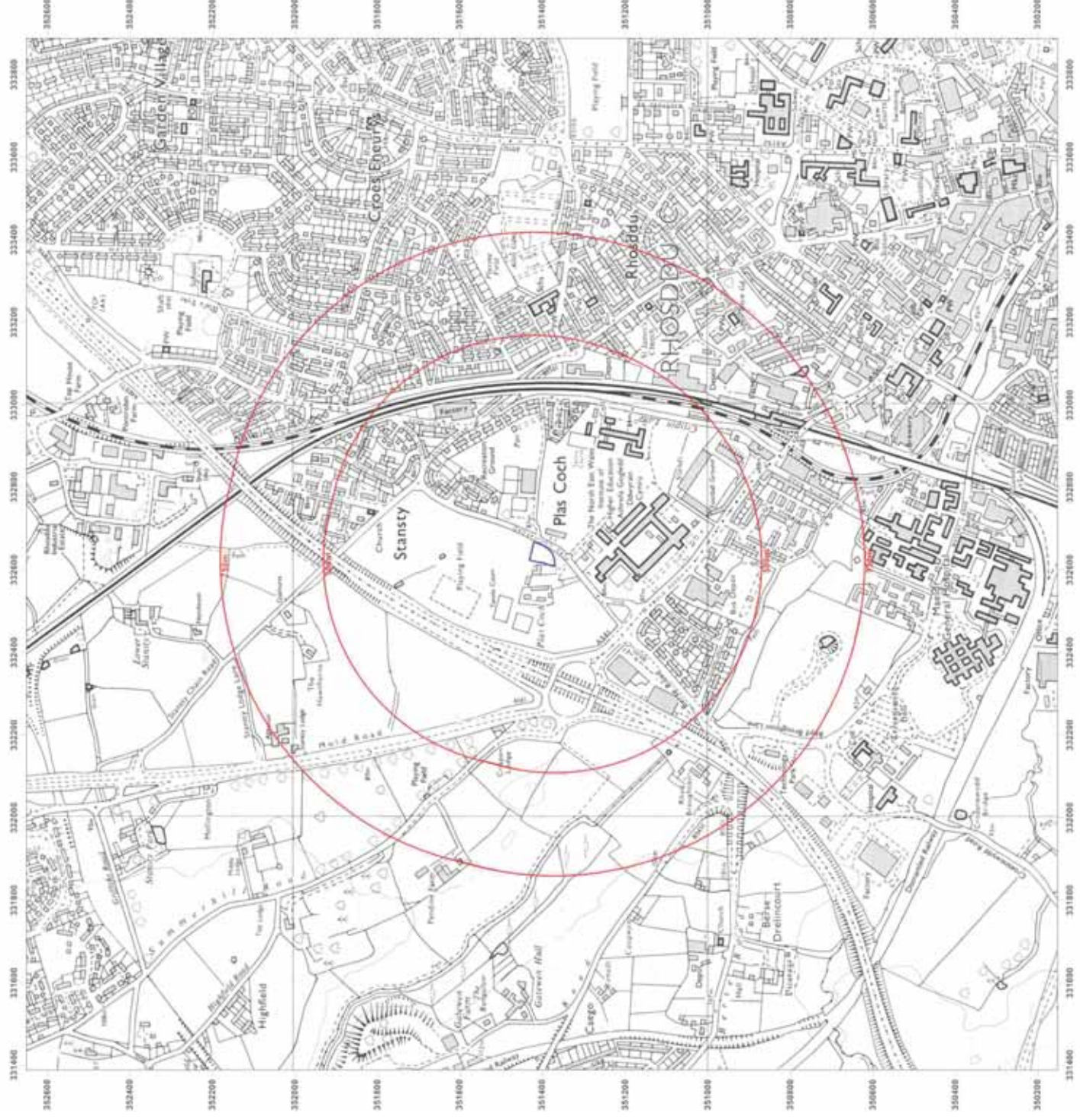


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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



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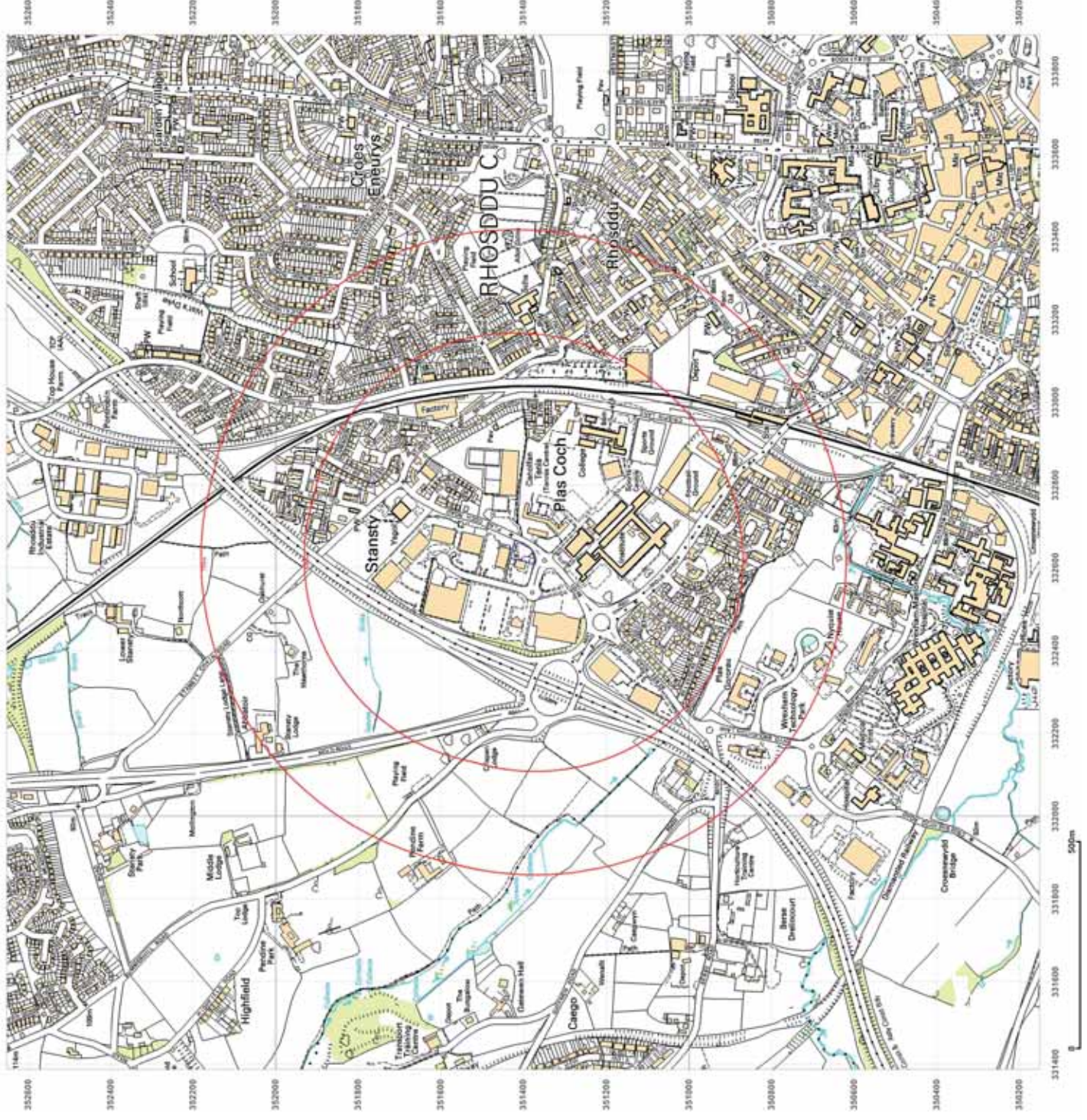


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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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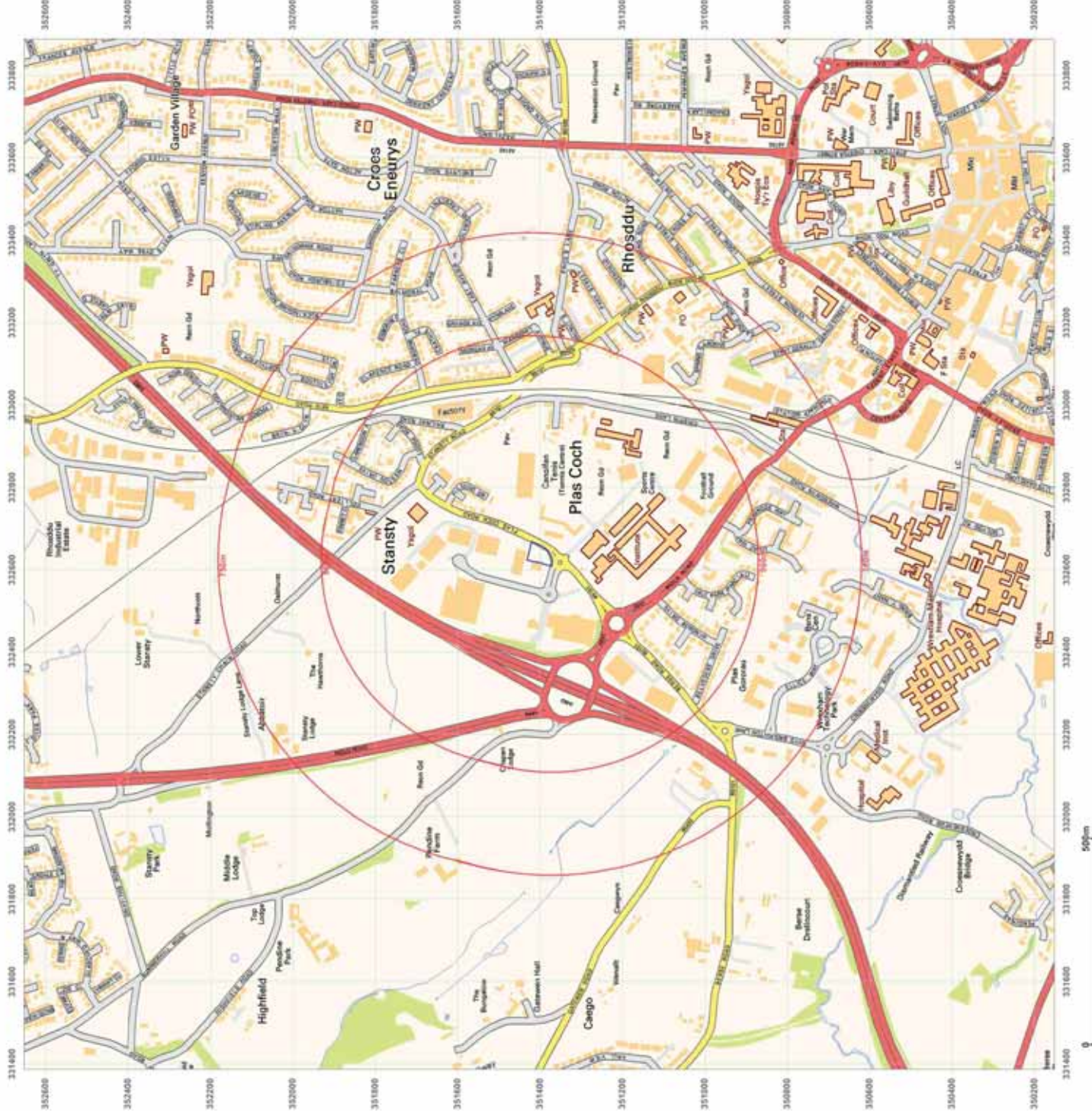
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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



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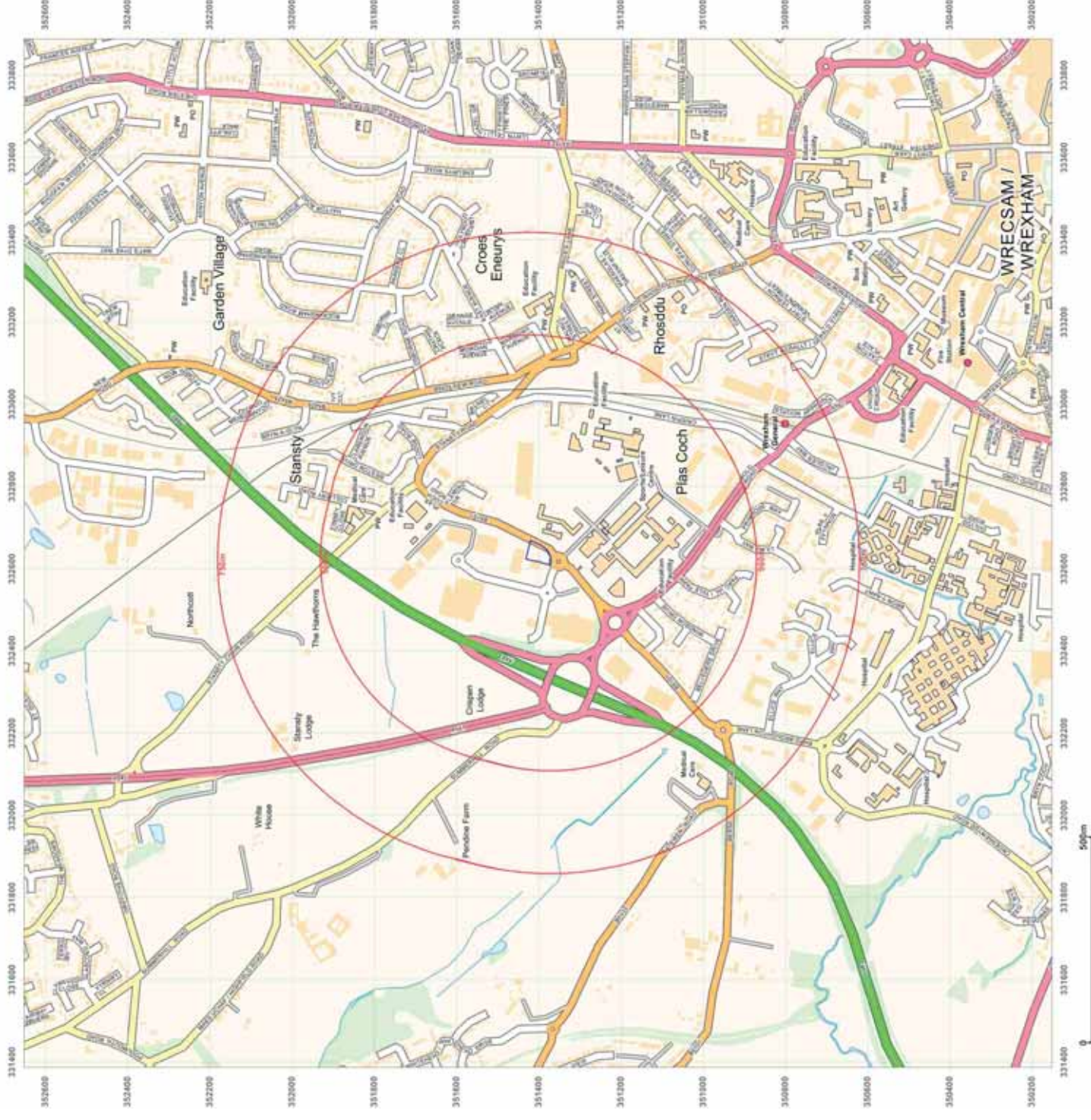


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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: County Series

Map date: 1874

Scale: 1:2,500

Printed at: 1:2,500



Supervised 10/74
Revised 10/74
Edition 10/74
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Site Details:

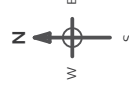
Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: County Series

Map date: 1899

Scale: 1:2,500

Printed at: 1:2,500



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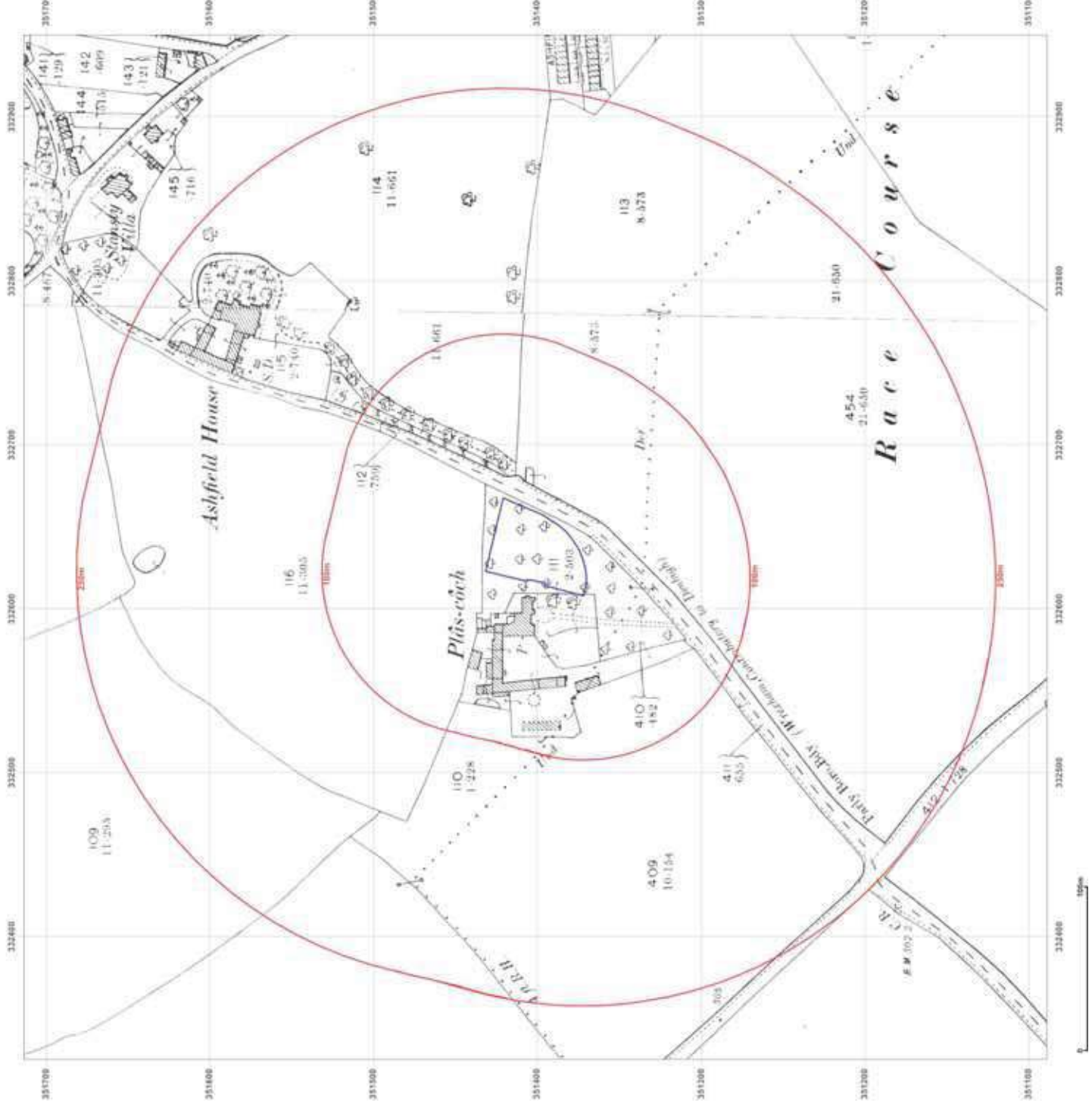
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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: County Series

Map date: 1912

Scale: 1:2,500

Printed at: 1:2,500



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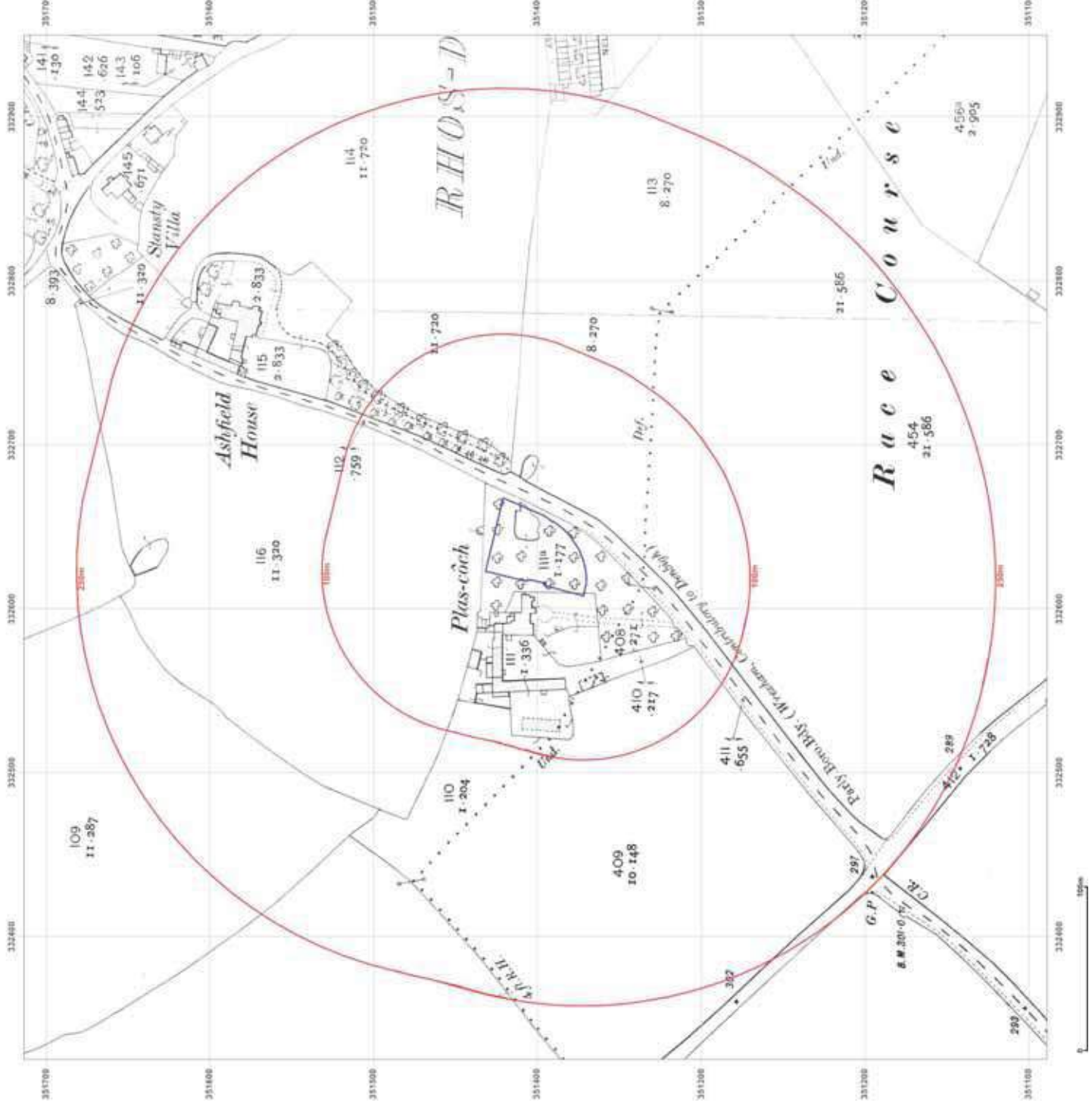
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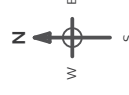
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Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: County Series

Map date: 1937-1939

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid



Map date: 1957

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1958

Scale: 1:2,500

Printed at: 1:2,500



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Eden 1968
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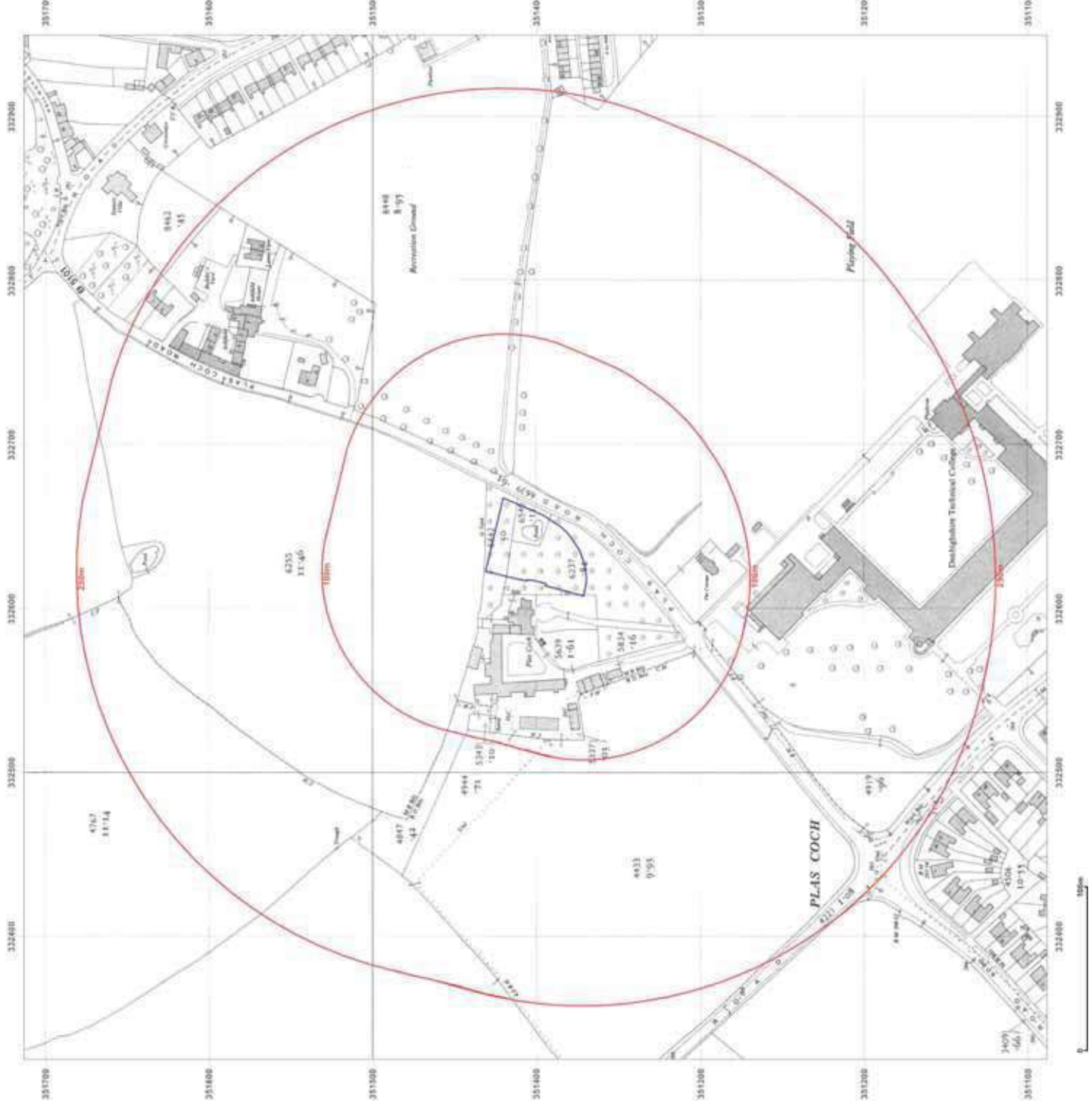
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Site Details:	Client Ref: EMS_461248_618905 Report Ref: EMS_461248_618905 Grid Ref: 332637, 351401
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Client Ref: EMS_461248_618905
Report Ref: EMS_461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid
Map date: 1967-1968
Scale: 1:1,250
Printed at: 1:2,000

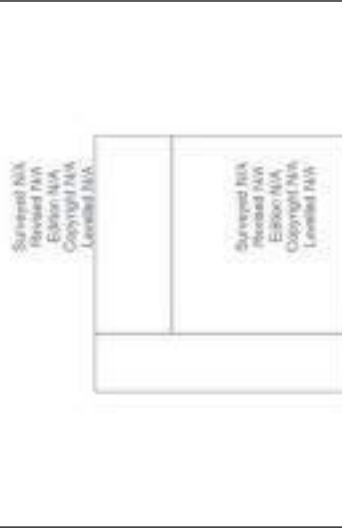
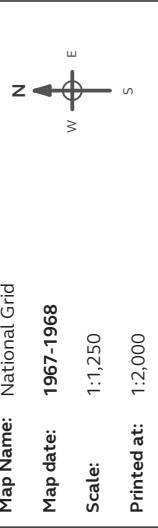
Map date: 1967-1968

Scale: 1:1,250

Printed at: 1:2,000



Scale: 1:1,250
Printed at: 1:2,000

Printed at: 1:2,000
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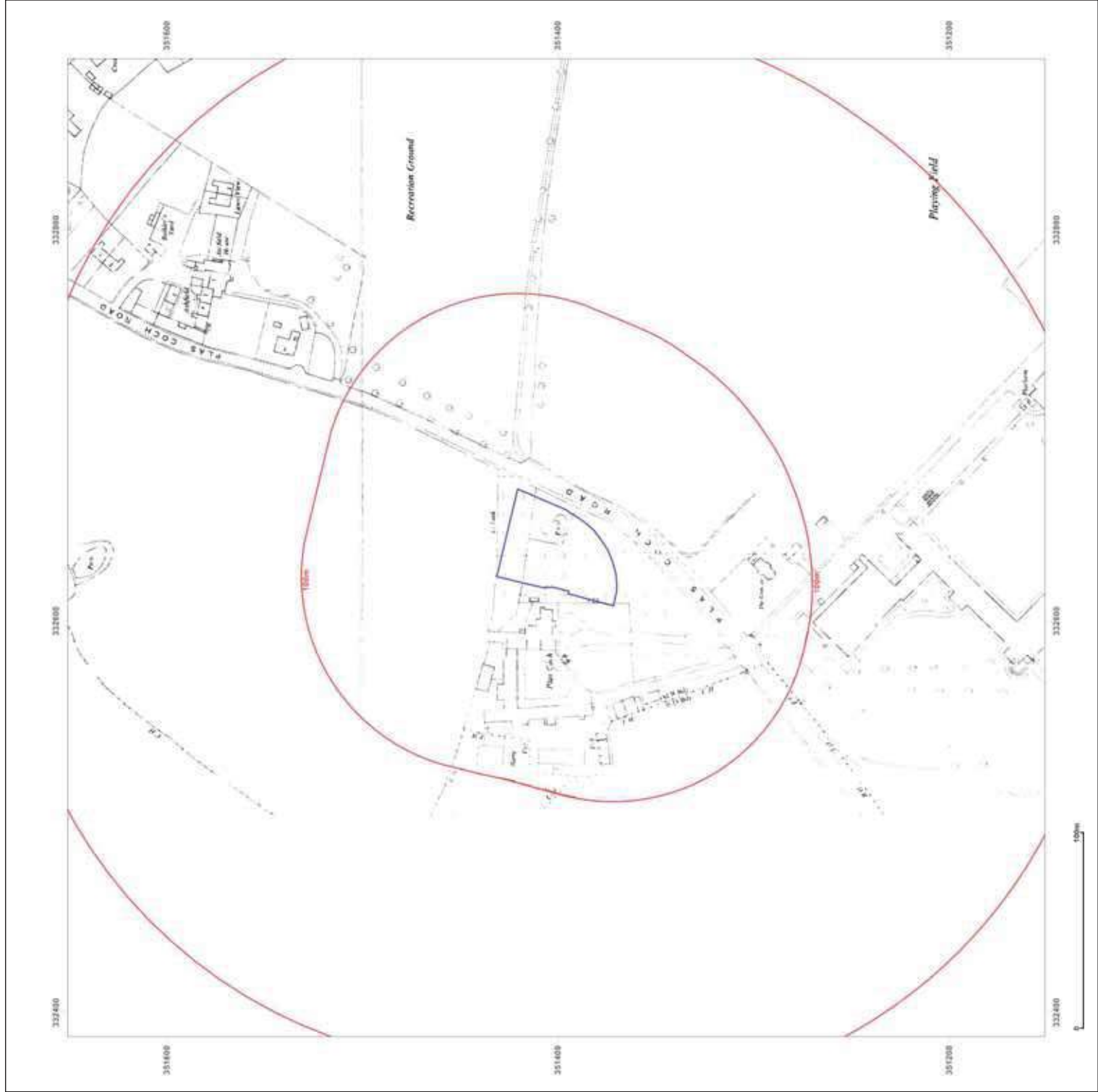
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Site Details:	Client Ref: EMS_461248_618905 Report Ref: EMS_461248_618905 Grid Ref: 332637, 351401
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Client Ref: EMS_461248_618905
Report Ref: EMS_461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid
Map date: 1967-1968
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Map date: 1967-1968

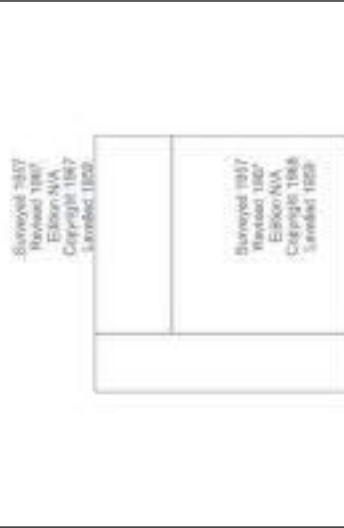
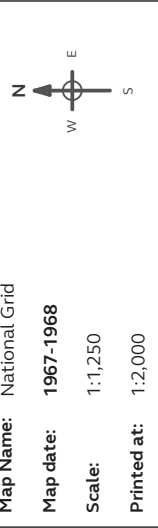
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Scale: 1:1,250

Printed at: 1:2,000

Printed at: 1:2,000
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Site Details:	
Client Ref:	EMS_461248_618905
Report Ref:	EMS-461248_618905
Grid Ref:	332637, 351401
Map Name:	National Grid
Map date:	1973-1975
Scale:	1:1,250
Printed at:	1:2,000

Client Ref: EMS_461248_618905
Report Ref: EMS_461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1973-1975

Scale: 1:1250

Printed at: 1:2,000



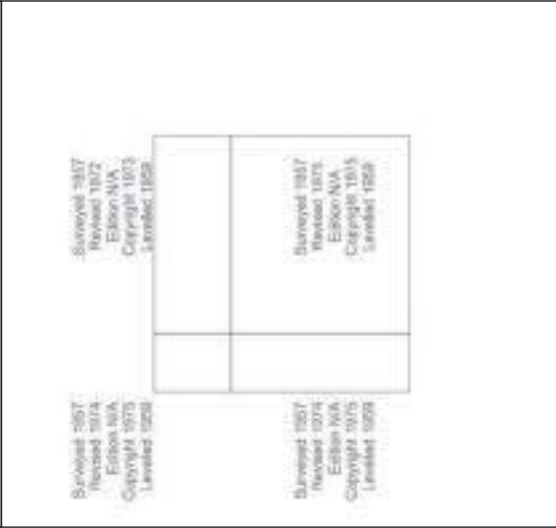
Map date: 1973-1975

Scale: 1:1,250

Printed at: 1:2,000



Scale: 1:1,250
Printed at: 1:2,000

Printed at: 1:2,000
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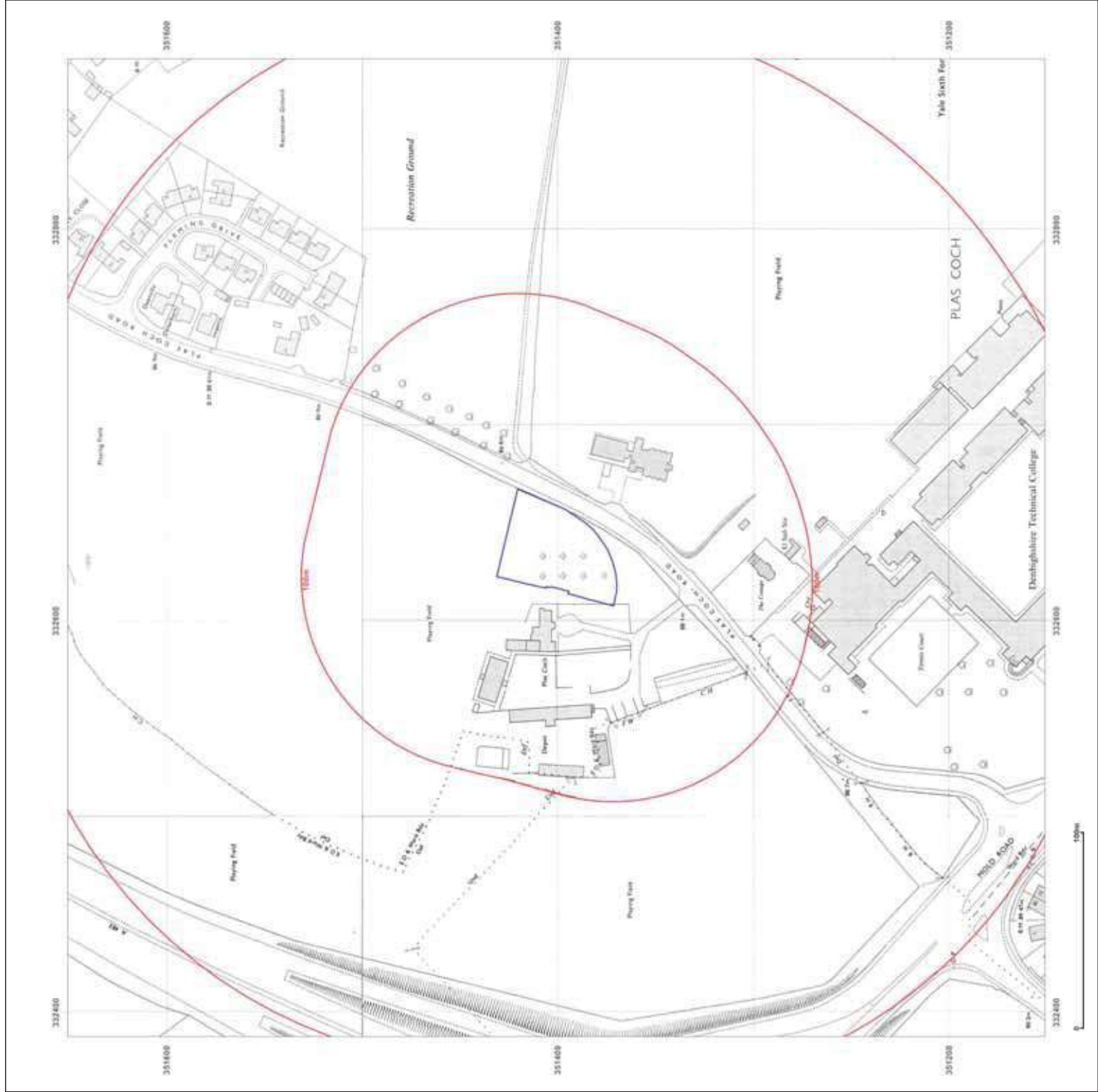
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Site Details:

Client Ref:	EMS_461248_618905
Report Ref:	EMS-461248_618905
Grid Ref:	332637, 351401

Client Ref: EMS_461248_618905
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Grid Ref: 332637, 351401

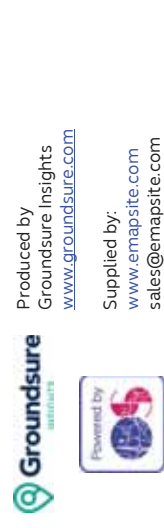
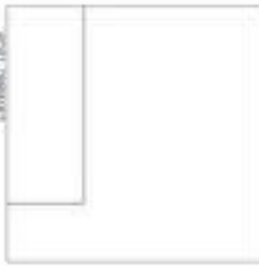
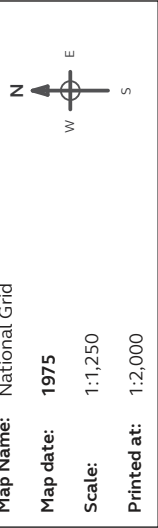
Map Name: National Grid
Map date: 1975
Scale: 1:1250
Printed at: 1:2,000

Map date: 1975

Scale: 1:1,250

Printed at: 1:2,000

Scale: 1:1,250
Printed at: 1:2,000

Printed at: 1:2,000
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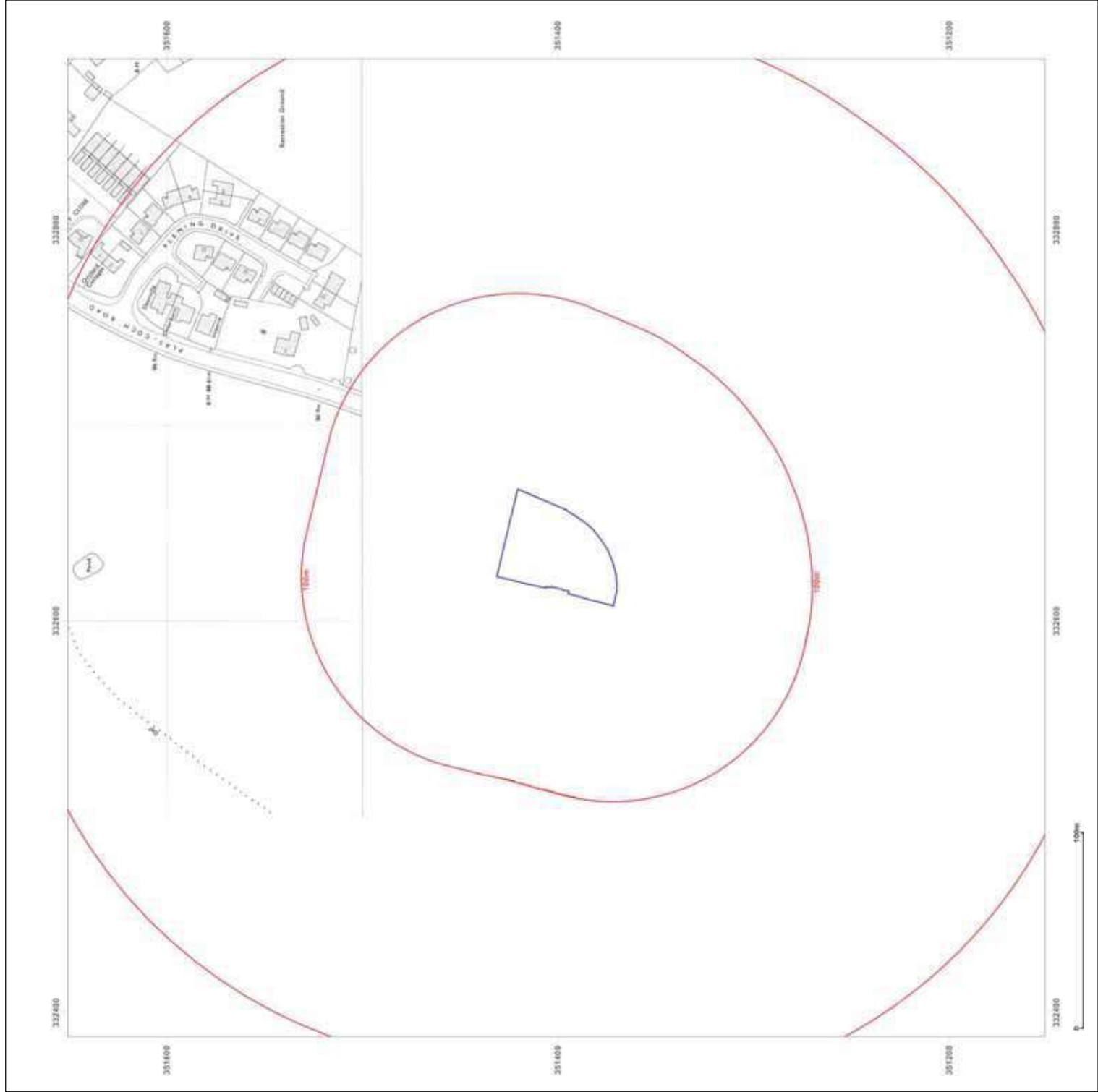
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Site Details:

Client Ref: EMS-461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

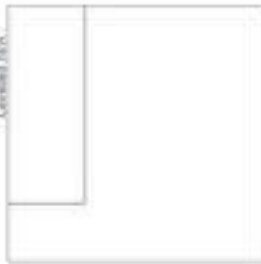
Map date: 1978

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Landed N/A



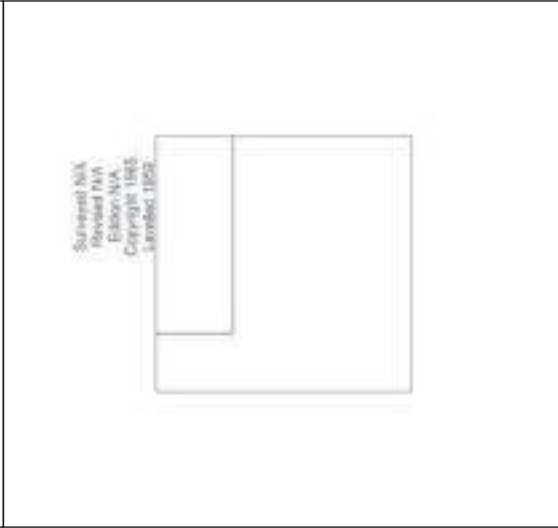
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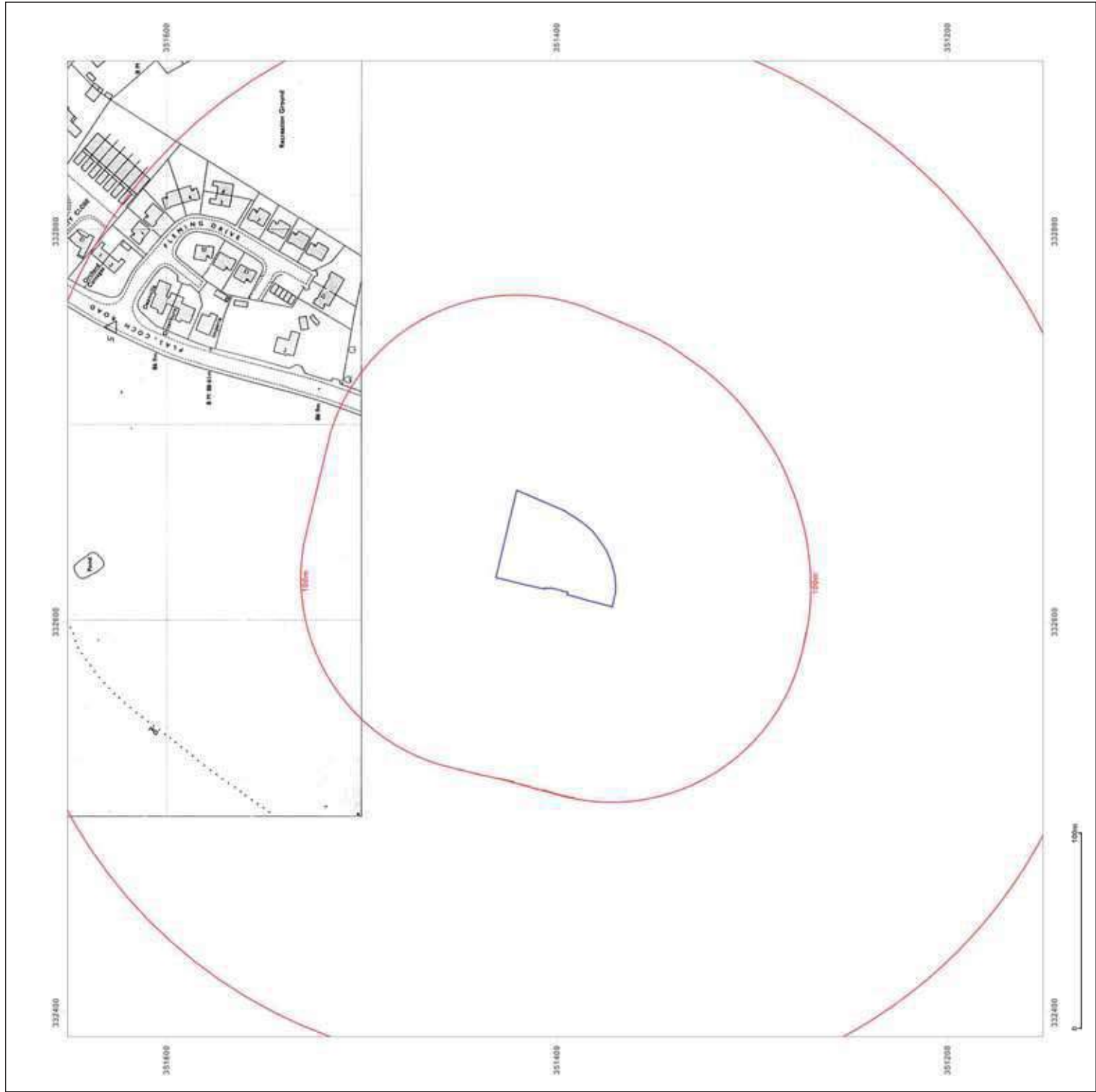
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Site Details:	Client Ref: EMS_461248_618905 Report Ref: EMS_461248_618905 Grid Ref: 332637, 351401
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Map Name:	National Grid
Map date:	1985
Scale:	1:1,250
Printed at:	1:2,000



Map legend available at:
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Site Details:

Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1985-1990

Scale: 1:1,250

Printed at: 1:2,000



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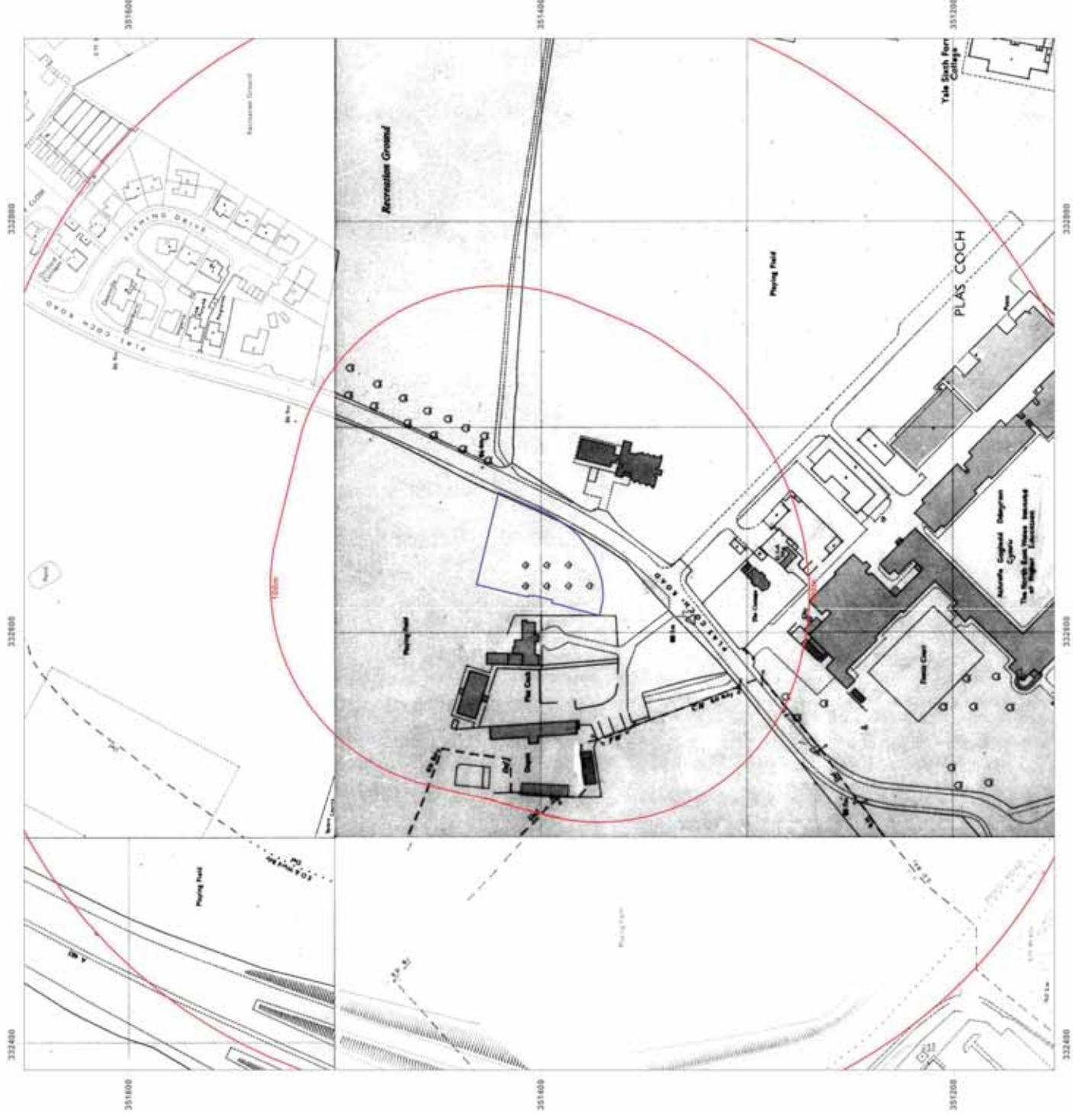
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Site Details:

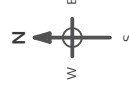
Client Ref: EMS_461248_618905
Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name:	National Grid
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Map date: 1988-1992

Scale: 1:1,250

Printed at: 1:2,000



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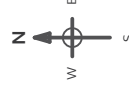
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Report Ref: EMS-461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid

Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000



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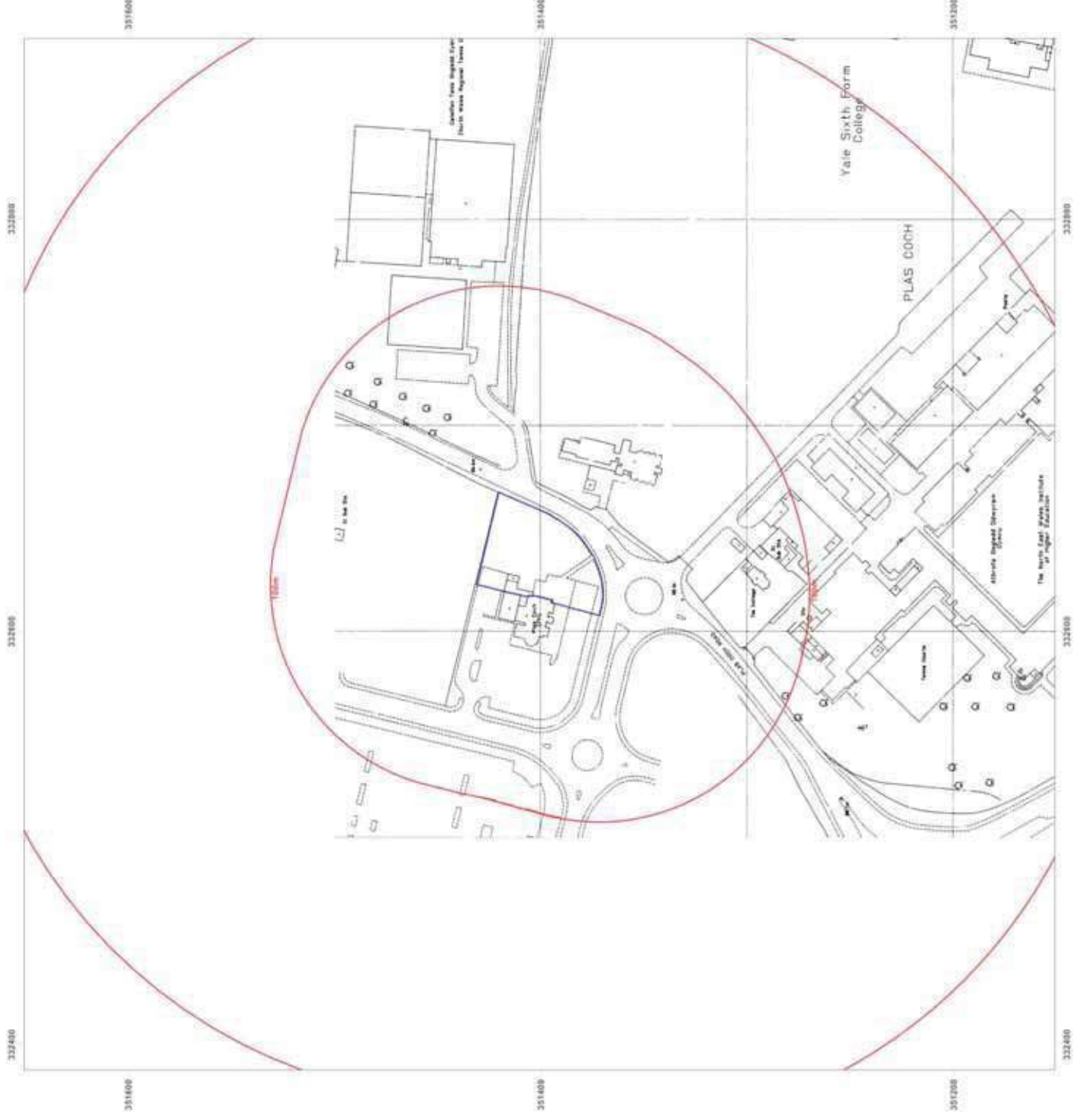
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Site Details:	Client Ref: EMS_461248_618905 Report Ref: EMS-461248_618905 Grid Ref: 332637, 351401
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Map Name: National Grid

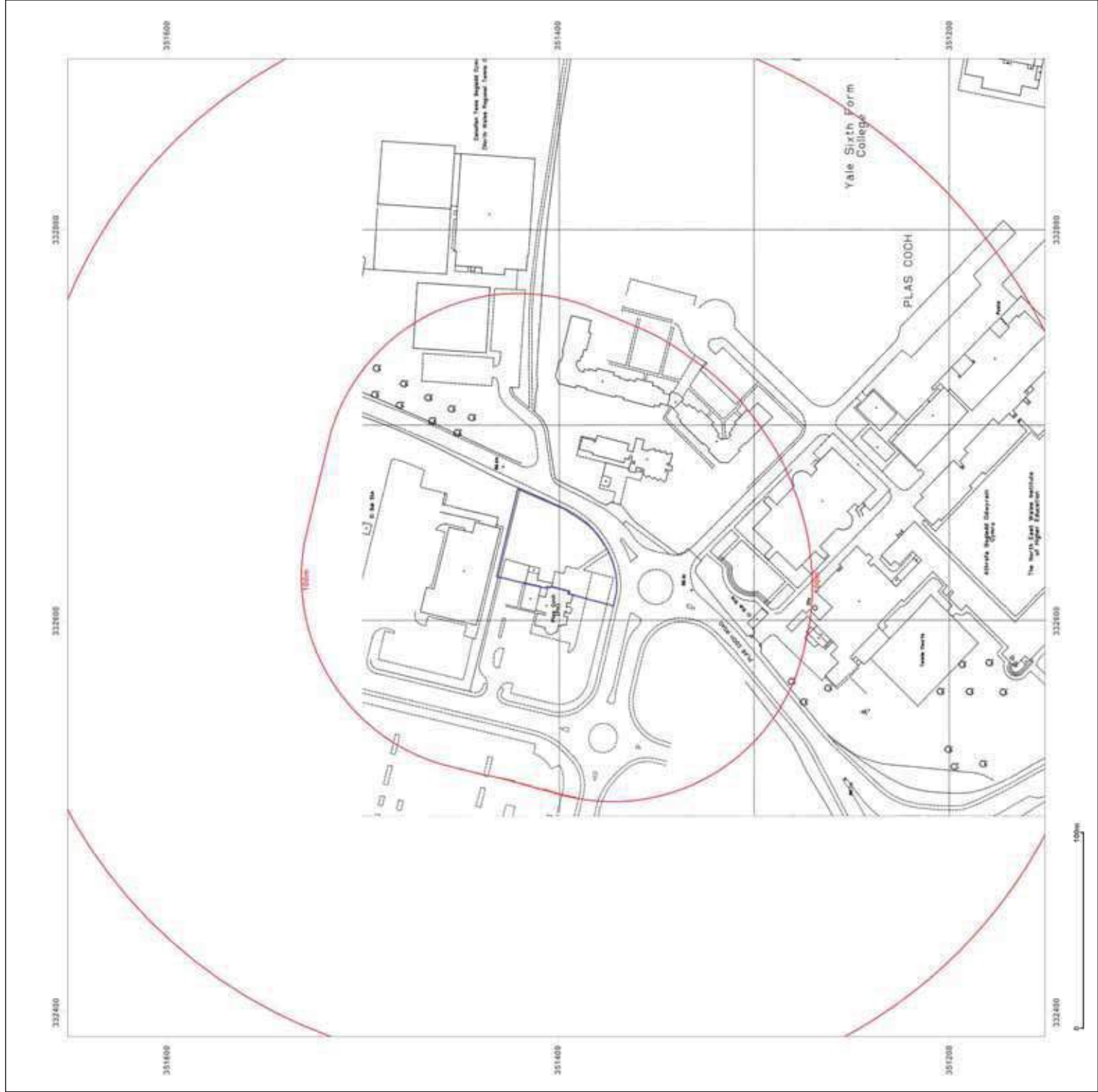
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Site Details:

Client Ref:	EMS_461248_618905
Report Ref:	EMS-461248_618905
Grid Ref:	332637, 351401

Client Ref: EMS_461248_618905
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Grid Ref: 332637, 351401

Map Name: National Grid
Map date: 1994
Scale: 1:1250
Printed at: 1:2,000

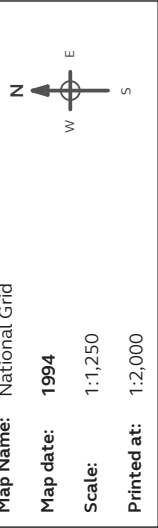
Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000

A compass rose with a central circle and four arrows pointing towards the cardinal directions. The top arrow is labeled 'N', the bottom 'S', the left 'W', and the right 'E'.

Scale: 1:1,250
Printed at: 1:2,000

Printed at: 1:2,000
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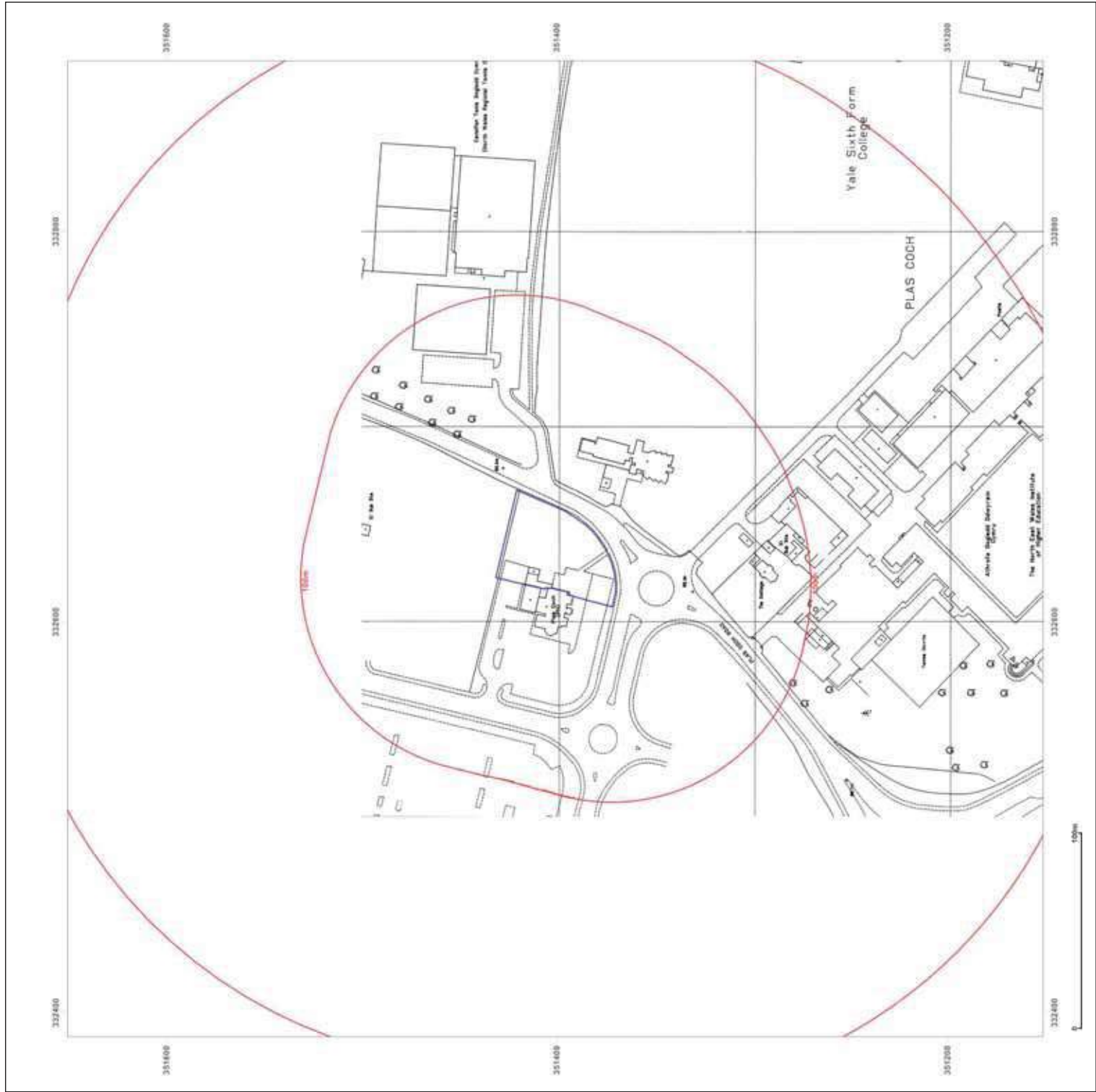
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Site Details:	Client Ref: EMS_461248_618905 Report Ref: EMS-461248_618905 Grid Ref: 332637, 351401
---------------	--

Client Ref: EMS_461248_618905
Report Ref: EMS_461248_618905
Grid Ref: 332637, 351401

Map Name: National Grid
Map date: 1992-1994
Scale: 1:1,250
Printed at: 1:2,000

Map date: 1992-1994

Scale: 1:1,250

Printed at: 1:2,000

Scale: 1:1,250

Printed at: 1:2,000

Printed at: 1:2,000
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