

APPENDIX 02

GroundSure Historical Maps

Site Details:

Yapton Road Poultry
Farm, Middleton-on-Sea, PO22
6DY

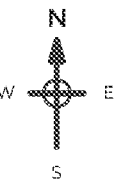
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Report Ref: EMS-529911_712739
Grid Ref: 497374, 100749

Map Name: County Series

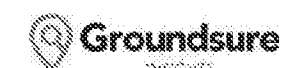
Map date: 1876

Scale: 1:2,500

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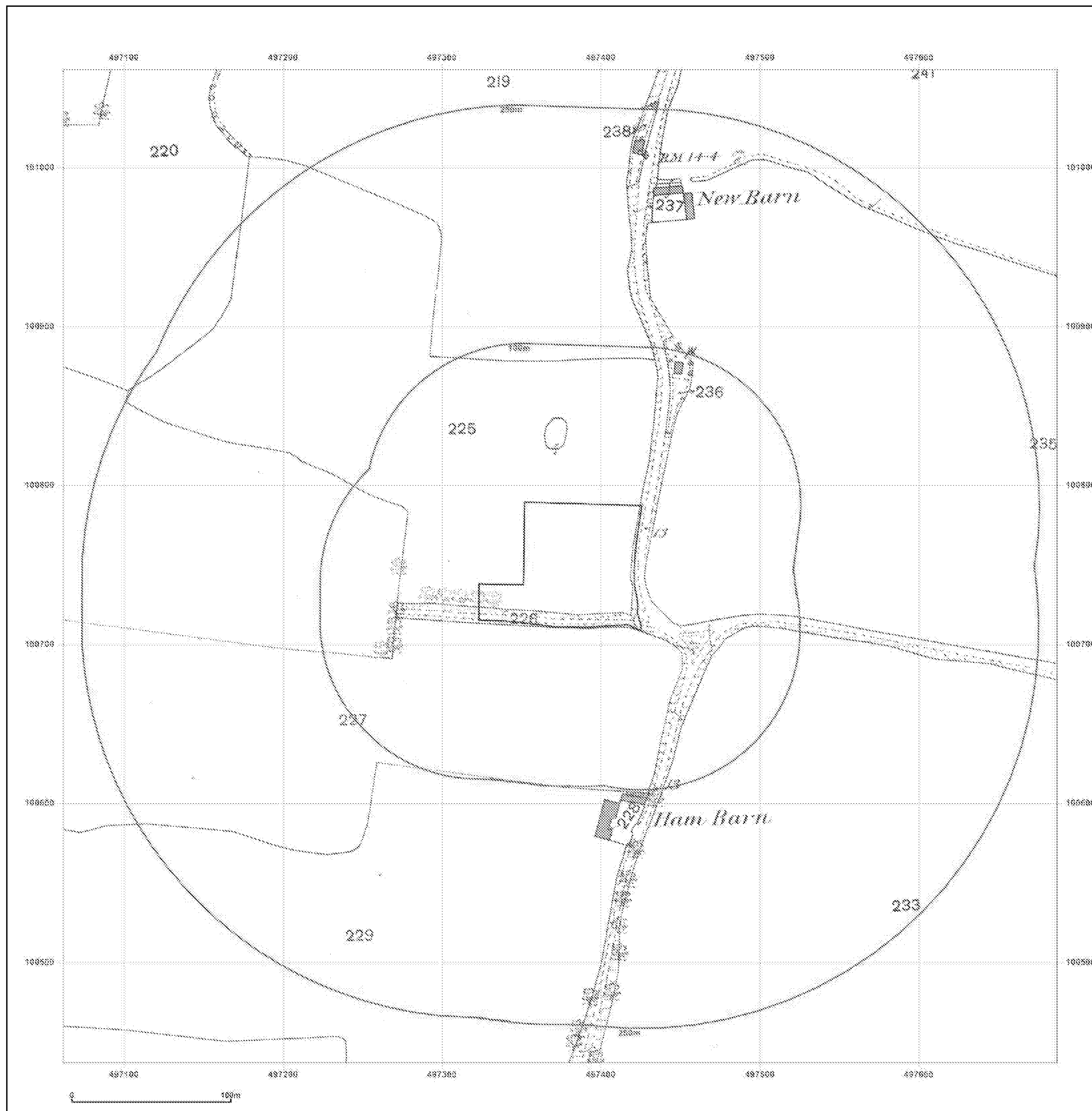


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Site Details:

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6DY

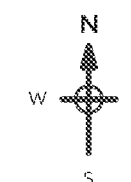
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Report Ref: EMS-529911_712739
Grid Ref: 497374, 100749

Map Name: County Series

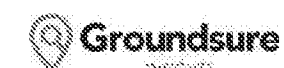
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Revised 1898
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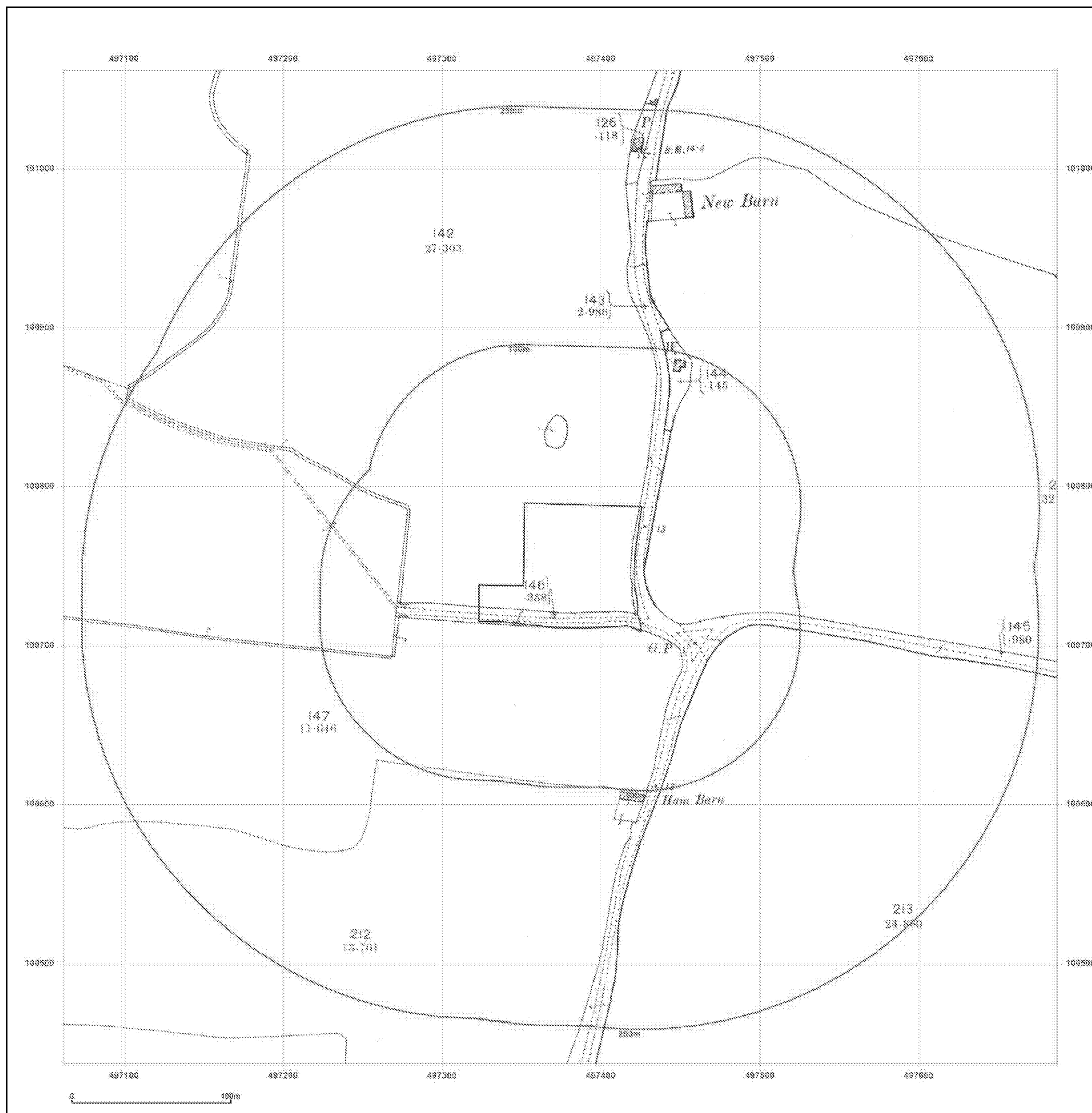


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Report Ref: EMS-529911_712739

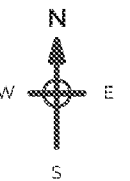
Grid Ref: 497374, 100749

Map Name: County Series

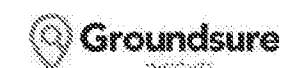
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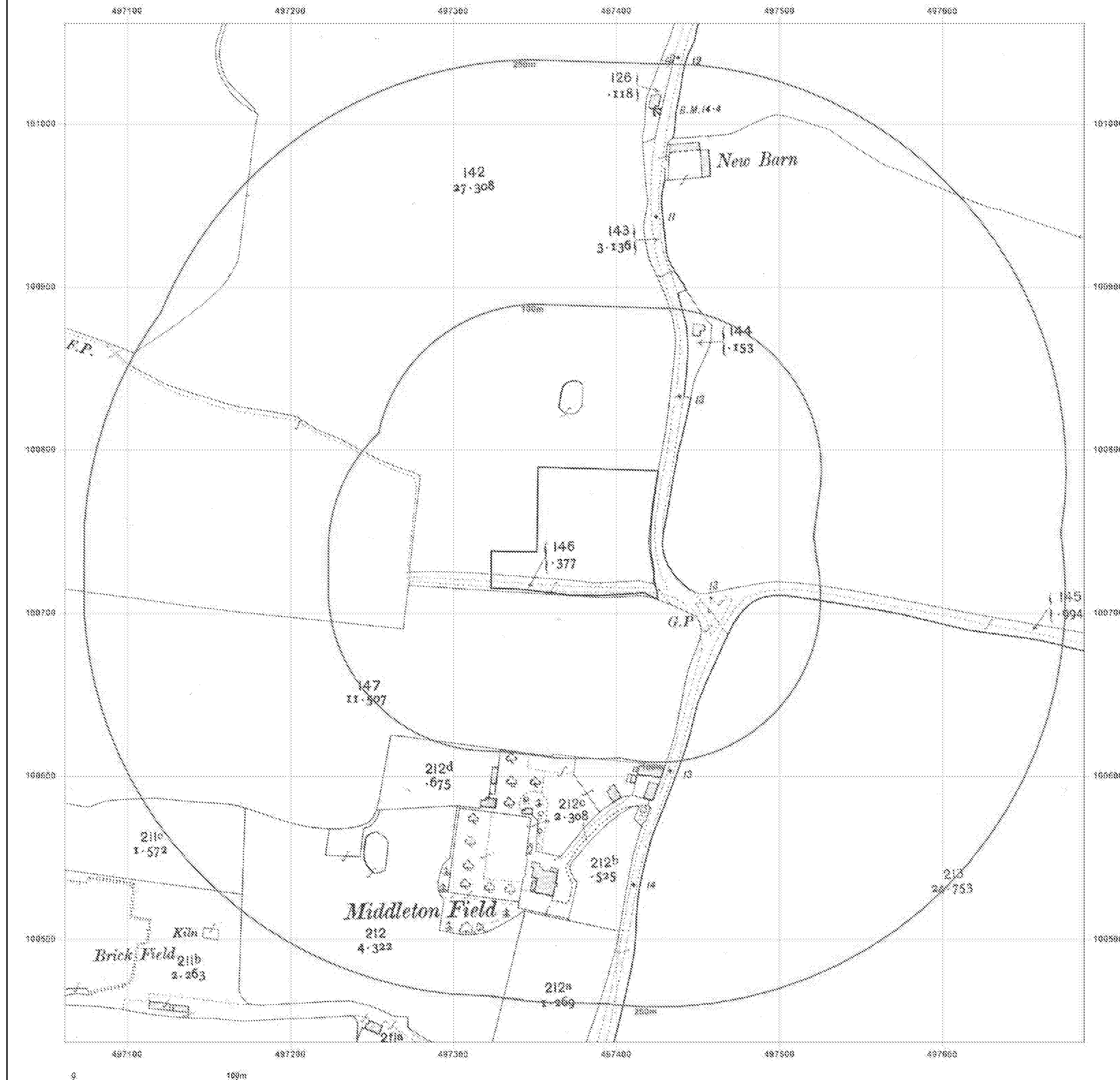


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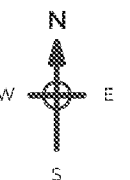
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Map Name: County Series

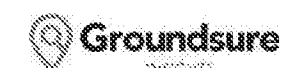
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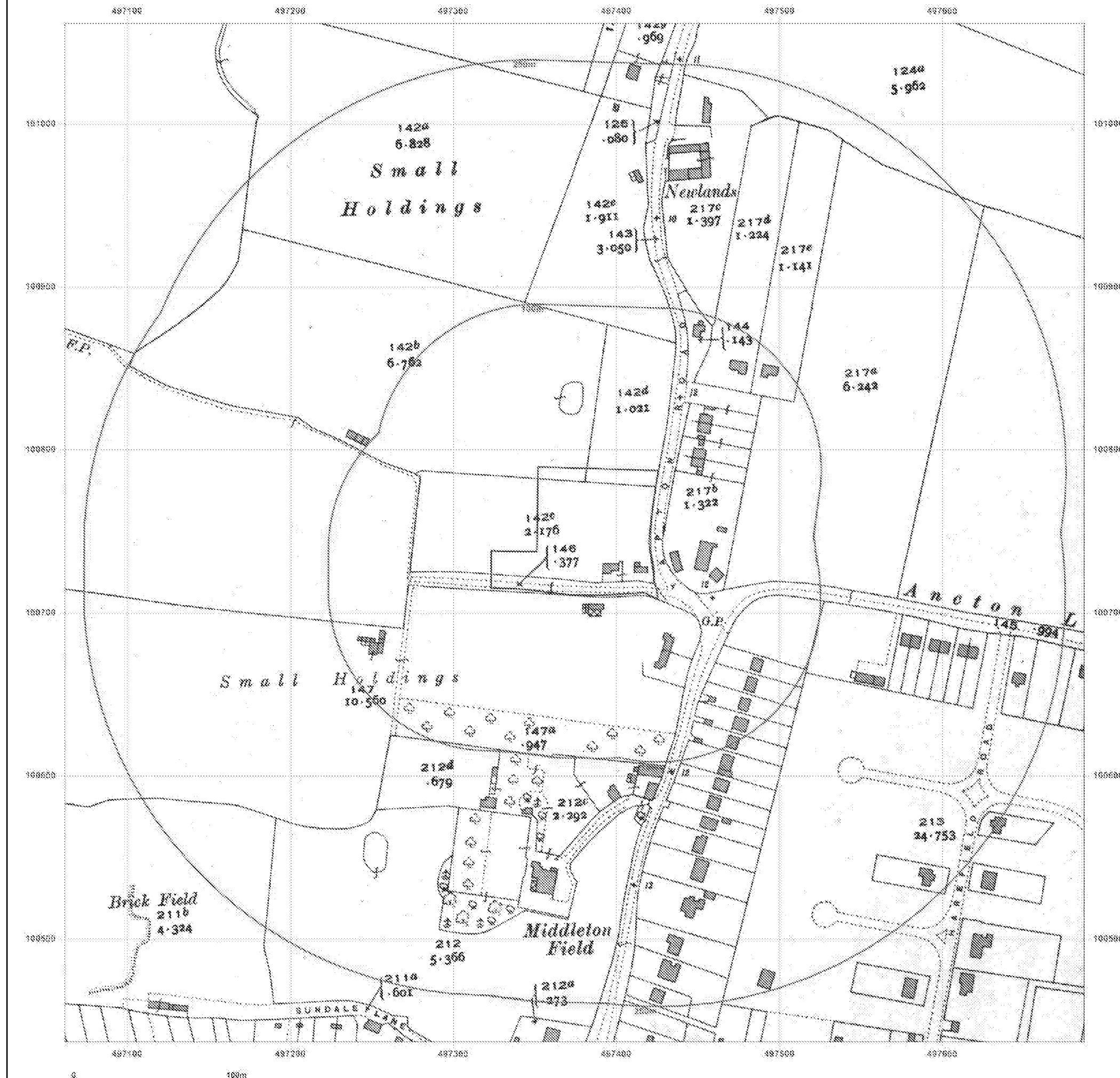


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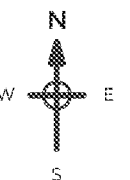
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Map Name: County Series

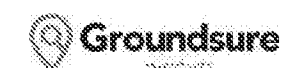
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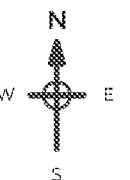
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Report Ref: EMS-529911_712739
Grid Ref: 497374, 100749

Map Name: National Grid

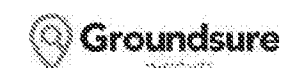
Map date: 1960

Scale: 1:2,500

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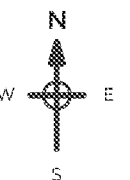
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Report Ref: EMS-529911_712739
Grid Ref: 497374, 100749

Map Name: National Grid

Map date: 1976-1979

Scale: 1:1,250

Printed at: 1:2,000

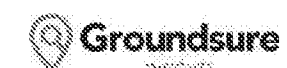


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Levelled 1958

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Revised 1975
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Levelled 1950

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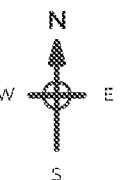
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Report Ref: EMS-529911_712739
Grid Ref: 497374, 100749

Map Name: National Grid

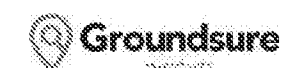
Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



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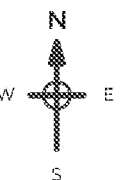
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Report Ref: EMS-529911_712739
Grid Ref: 497374, 100749

Map Name: National Grid

Map date: 1990-1994

Scale: 1:1,250

Printed at: 1:2,000

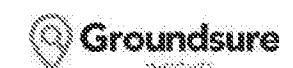


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APPENDIX 03

GroundSure EnviroInsight Report



EmapSite

Masdar House, 1 Reading Road,
Eversley, RG27 0RP

Groundsure EMS-529911_712741
Reference:

Your Reference: EMS_529911_712741

Report Date 28 Feb 2019

Report Delivery Email - pdf
Method:

Enviro Insight

Address: Yapton Road Poultry Farm, Middleton-on-Sea, PO22 6DY,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Enviroinsight

Address: Yapton Road Poultry Farm, Middleton-on-Sea, PO22 6DY,
Date: 28 Feb 2019
Reference: EMS-529911_712741
Client: EmapSite

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 20-May-2015
Grid Reference: 497382,100748
Site Size: 0.6144ha

Report Reference: EMS-529911_712741
Client Reference: EMS_529911_712741

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Overview of Findings

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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	2	3	7
1.2 Additional Information – Historical Tank Database	0	0	0	0
1.3 Additional Information – Historical Energy Features Database	0	9	12	22
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	13
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	0	0	2	6

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	0	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	1	1	2
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	4	2
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
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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	1	0	0
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	0
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	0	0

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	8	3	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
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 Records of Artificial Ground and Made Ground present beneath the study site	None identified
5.2 Records of Superficial Ground and Drift Geology present beneath the study site	Identified
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 Records of Strata Classification in the Superficial Geology within 500m of the study site	Identified					
6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site	Identified					
	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	1	3
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	3	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	1	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 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	No	No	No	No	No
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	0	2	8	58	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Environment Agency Zone 2 floodplains within 250m of the study site	None identified					
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	None identified					
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	Very Low					
7.4 Flood Defences within 250m of the study site	None identified					
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified					
7.6 Areas used for Flood Storage within 250m of the study site	None identified					
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Limited potential					
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	High					

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	0	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	0
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	1	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards	
9.1 Maximum risk of natural ground subsidence	Low
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Low
9.1.2 Maximum Landslides hazard rating identified on the study site	Very Low
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Very Low
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Negligible
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	Low
9.1.6 Maximum Running Sand hazard rating identified on the study site	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 site is not in a Radon Affected Area, as less than 1% 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?	No radon protective measures are necessary.

Section 10: Mining	
10.1 Coal mining areas within 75m of the study site	None identified
10.2 Non-Coal Mining areas within 50m of the study site boundary	None identified
10.3 Brine affected areas within 75m of the study site	None identified

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 licences, 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.

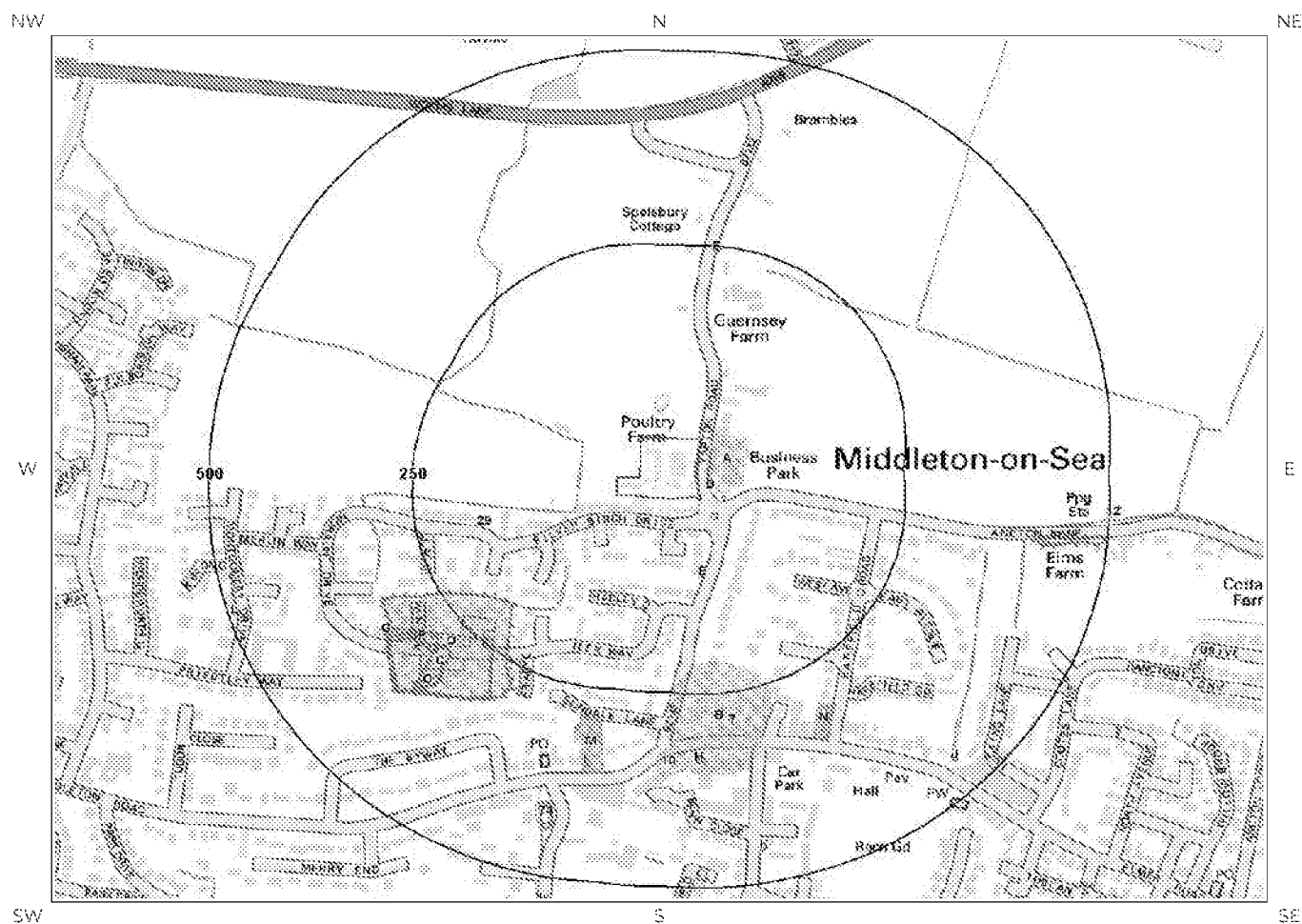
Note: Maps

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).

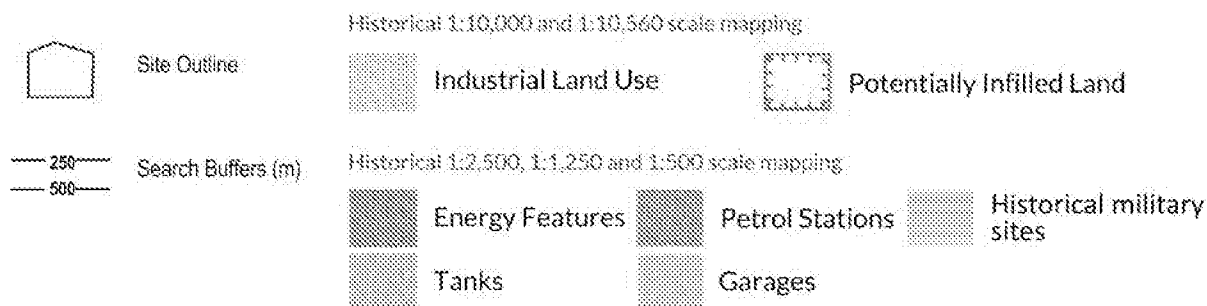
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

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: 12

ID	Distance [m]	Direction	Use	Date
1A	10	E	Unspecified Commercial/Industrial	1991
2A	10	E	Unspecified Works	1978
3O	189	SW	Brick Field	1932
4B	208	S	Telephone Exchange	1966
5C	241	SW	Brick Field	1910
6B	259	S	Telephone Exchange	1940
7	273	S	Telephone Exchange	1991
8P	285	SW	Unspecified Pit	1910
9C	287	SW	Unspecified Pit	1932
10	318	S	Telephone Exchange	1932
11Q	320	SW	Unspecified Pit	1910
12	495	E	Pumping Station	1991

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: 0

Database searched and no data found.

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: 43

ID	Distance (m)	Direction	Use	Date
13D	10	E	Electricity Substation	1985

14D	12	E	Electricity Substation	1990
15D	12	E	Electricity Substation	1990
16D	12	E	Electricity Substation	1993
17D	12	E	Electricity Substation	1976
18D	13	E	Electricity Substation	1998
19D	13	E	Electricity Substation	1991
20D	26	E	Gas Governor	1985
21D	28	E	Gas Governor	1976
22E	94	S	Electricity Substation	1998
23E	94	S	Electricity Substation	1990
24E	94	S	Electricity Substation	1993
25E	94	S	Electricity Substation	1990
26E	94	S	Electricity Substation	1985
27E	94	S	Electricity Substation	1976
28E	95	S	Electricity Substation	1991
29	165	W	Electricity Substation	1998
30F	243	N	Electricity Substation	1983
31F	243	N	Electricity Substation	1975
32F	243	N	Electricity Substation	1974
33F	244	N	Electricity Substation	1994
34G	330	SW	Electricity Substation	1991
35G	331	SW	Electricity Substation	1998
36G	331	SW	Electricity Substation	1993
37G	331	SW	Electricity Substation	1990
38G	331	SW	Electricity Substation	1990
39H	332	S	Electricity Substation	1988
40H	332	S	Electricity Substation	1991
41H	333	S	Electricity Substation	1969
42H	334	S	Electricity Substation	1994
43I	345	S	Electricity Substation	1991
44I	345	S	Electricity Substation	1988
45I	345	S	Electricity Substation	1969
46J	452	SE	Electricity Substation	1998
47J	452	SE	Electricity Substation	1971
48K	453	S	Electricity Substation	1987
49K	453	S	Electricity Substation	1991
50J	453	SE	Electricity Substation	1987
51J	453	SE	Electricity Substation	1991
52J	453	SE	Electricity Substation	1979
53K	455	S	Electricity Substation	1998
54L	490	W	Electricity Substation	1987
55L	490	W	Electricity Substation	1984

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: 13

ID	Distance (m)	Direction	Use	Date
56M	288	S	Garage	1994
57M	288	S	Garage	1988
58M	288	S	Garage	1991
59M	289	S	Service Station	1961
60M	289	S	Service Station	1969
61N	297	SE	Garage	1961
62N	297	SE	Garage	1971
63M	300	S	Service Station	1960
64N	305	SE	Garage	1960
65N	305	SE	Garage	1979
66N	305	SE	Garage	1987
67N	305	SE	Garage	1991
68N	305	SE	Garage	1998

1.6 Historical military sites

Certain military installations were not noted on historic mapping for security reasons. Whilst not all military land is necessarily of concern, Groundsure has researched and digitised a number of Ordnance Factories and other military industrial features (e.g. Ordnance Depots, Munitions Testing Grounds) which may be of contaminative concern. This research was drawn from a number of different sources, and should not be regarded as a definitive or exhaustive database of potentially contaminative military installations. The boundaries of sites within this database have been estimated from the best evidence available to Groundsure at the time of compilation.

Records of historical military sites within 500m of the search boundary: 0

Database searched and no data found.

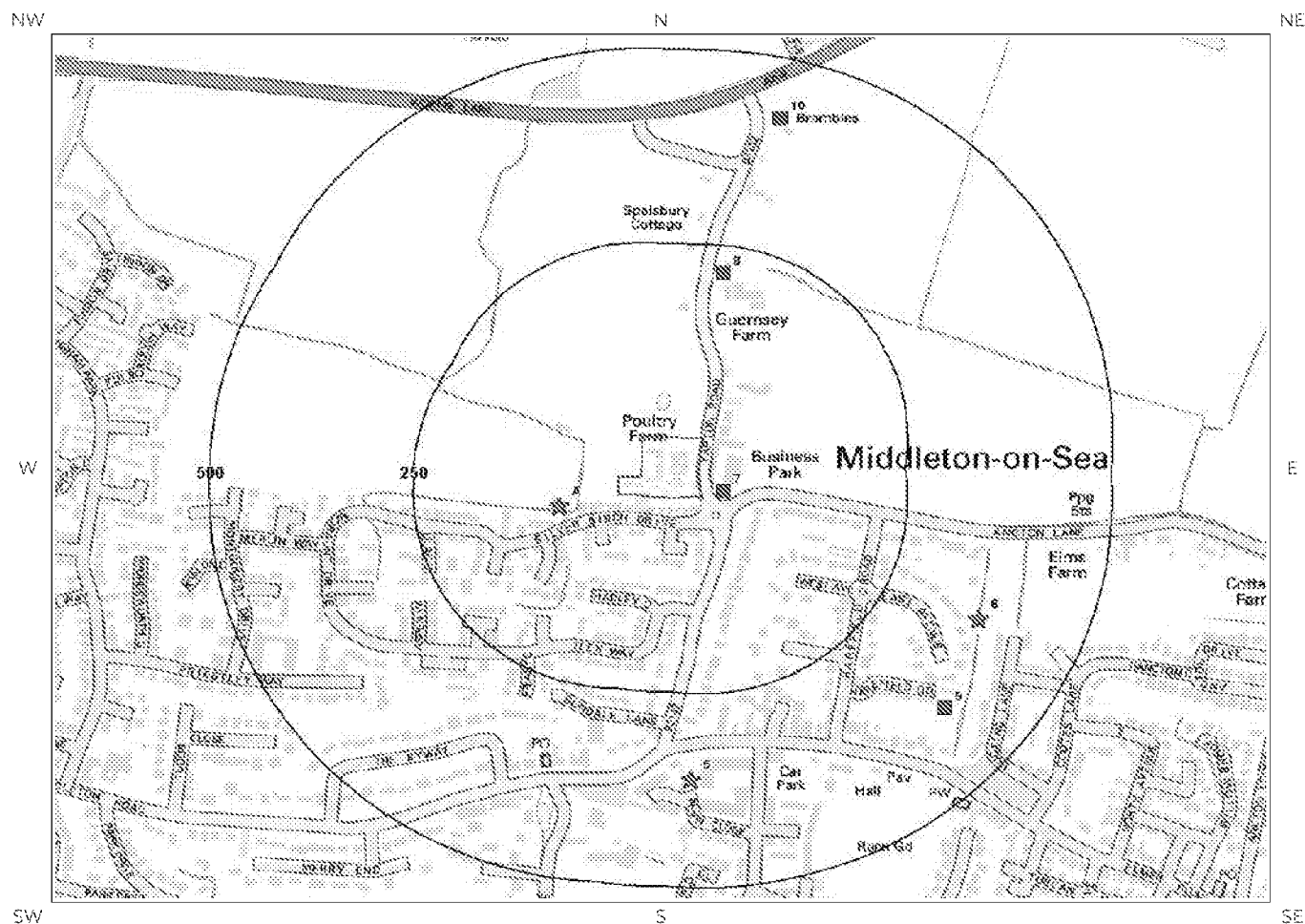
1.7 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 8

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

ID	Distance(m)	Direction	Use	Date
69O	189	SW	Brick Field	1932
70C	241	SW	Brick Field	1910
71P	285	SW	Unspecified Pit	1910
72C	287	SW	Unspecified Pit	1932
73Q	320	SW	Unspecified Pit	1910
74	405	S	Pond	1991
75R	406	E	Pond	1932
76R	420	E	Pond	1876

2. Environmental Permits, Incidents and Registers Map



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- | | | |
|-----------------------------|---------------------------------------|--|
| Site Outline | ★ Recorded Pollution Incident | ▼ RAS 3 & 4 Authorisations |
| 250 | ◆ Dangerous Substances (List 1) | ▲ Part A(1) Authorised Processes and Historic IPC Authorisations |
| 500 | ◇ Dangerous Substances (List 2) | ▲ Part A(2) and Part B Authorised Processes |
| Water Industry Referrals | ■ Licenced Discharge Consents | ⬢ COMAH / NIHHS Sites |
| Red List Discharge Consents | Sites Determined as Contaminated Land | Hazardous Substance Consents and Enforcements |

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:

0

Database searched and no data found.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

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

4

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

ID	Distance (m)	Direction	NGR	Details
7	26	E	497450 100720	Address: MIDDLETON DEPOT, MIDDLETON DEPOT, ANCTON LANE, MIDDLETON-ON-SEA WEST SUSSEX Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01738 Permit Version: 1 Receiving Water: CONTROLLED SEA Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 06/08/1968 Effective Date: 06-Aug-1968 Revocation Date: 31/03/1997
8	214	N	497450 101000	Address: LAND AT YAPTON ROAD, LAND AT YAPTON ROAD, MIDDLETON ON SEA, BOGNOR REGIS, WEST SUSSEX, PO22 6DY Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: P02157 Permit Version: 1 Receiving Water: FRESHWATER RIVER Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 02/03/1989 Effective Date: 02-Mar-1989 Revocation Date: -
9	399	SE	497720 100440	Address: THE HUT, THE HUT, REAR 71 ELMER ROAD, MIDDLETON ON SEA, WEST SUSSEX Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P01811 Permit Version: 1 Receiving Water: INTO LAND Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 26/07/1988 Effective Date: 26-Jul-1988 Revocation Date: -
10	423	N	497520 101200	Address: BRAMBLES, BRAMBLES, YAPTON ROAD, MIDDLETON ON SEA, WEST SUSSEX Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: P02717 Permit Version: 1 Receiving Water: FRESHWATER RIVER Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 28/12/1989 Effective Date: 28-Dec-1989 Revocation Date: 31/03/1997

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:

6

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
1A	75	W	497250.0 100700.0	Incident Date: 20-May-2002 Incident Identification: 79940.0 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
2A	75	W	497250.0 100700.0	Incident Date: 20-May-2002 Incident Identification: 79940.0 Pollutant: Specific Waste Materials Pollutant Description: Household Waste Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
3A	75	W	497250.0 100700.0	Incident Date: 20-May-2002 Incident Identification: 79940.0 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Vegetable Cuttings and Deposits Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
4A	75	W	497250.0 100700.0	Incident Date: 20-May-2002 Incident Identification: 79940.0 Pollutant: inert Materials and Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

ID	Distance (m)	Direction	NGR	Details
				Wastes:General Biodegradable Materials and Wastes:Specific Waste Materials Pollutant Description: Construction and Demolition Materials and Wastes:Vegetable Cuttings and Deposits:Household Waste
5	360	S	497410.0 100349.0	Incident Date: 14-Apr-2003 Incident Identification: 151044.0 Pollutant: Specific Waste Materials Pollutant Description: Household Waste Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
6	369	SE	497761.0 100555.0	Incident Date: 28-Mar-2003 Incident Identification: 146926.0 Pollutant: Specific Waste Materials Pollutant Description: Household Waste Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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

0

Database searched and no data found.

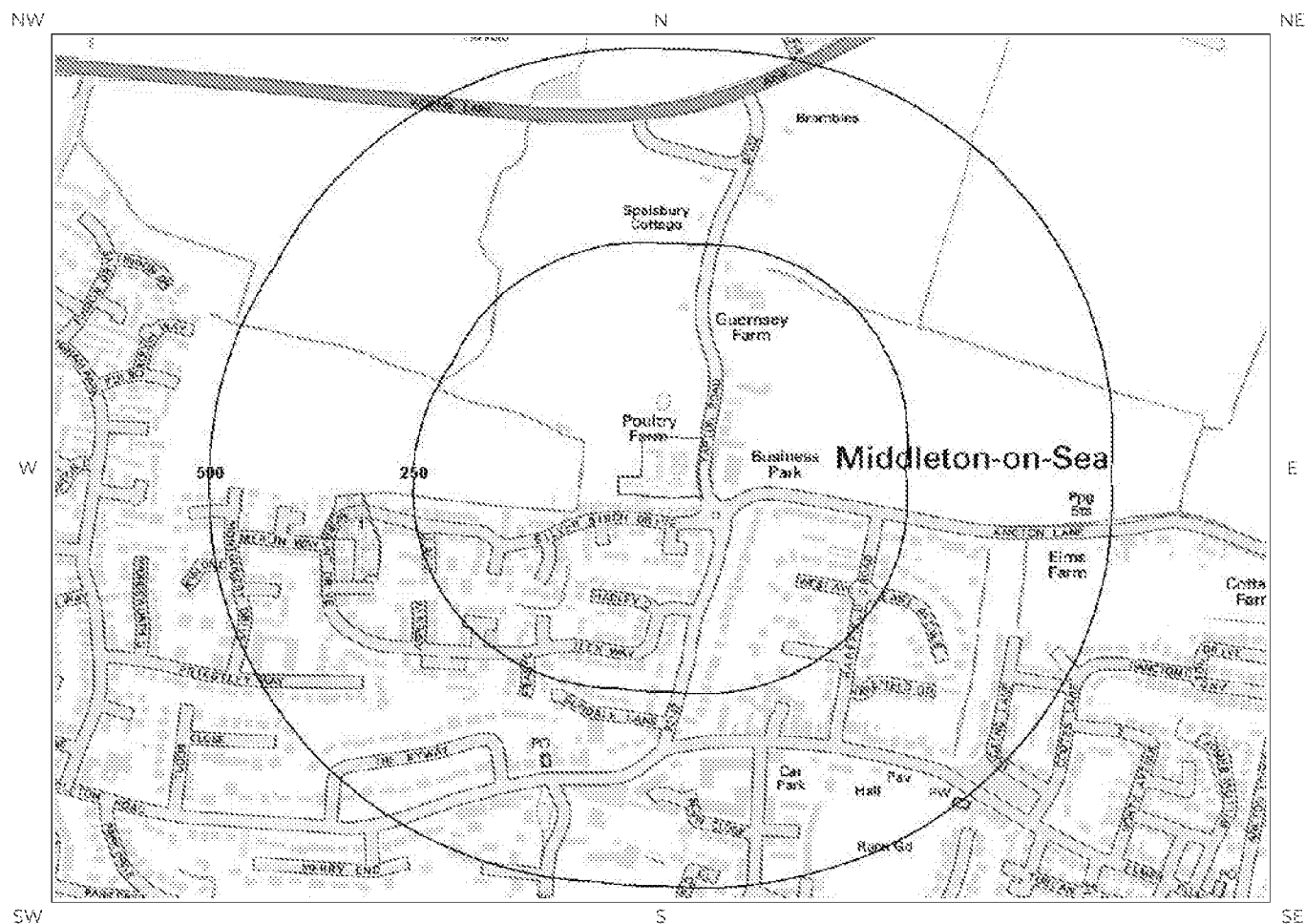
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

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

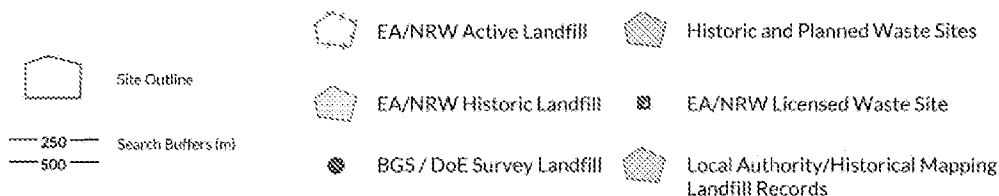
0

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:

1

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
1	298	W		Site Address: West of Ilex Way, Middleton, Sussex Waste Licence: Yes Site Reference: WD27/174 Waste Type: Inert, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 01-Jan-1976 Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1945 Last Recorded: 31-Dec-1955

3.1.3 Records of BGS/DnE 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:

0

Database searched and no data found.

3.2 Other Waste Sites

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

0

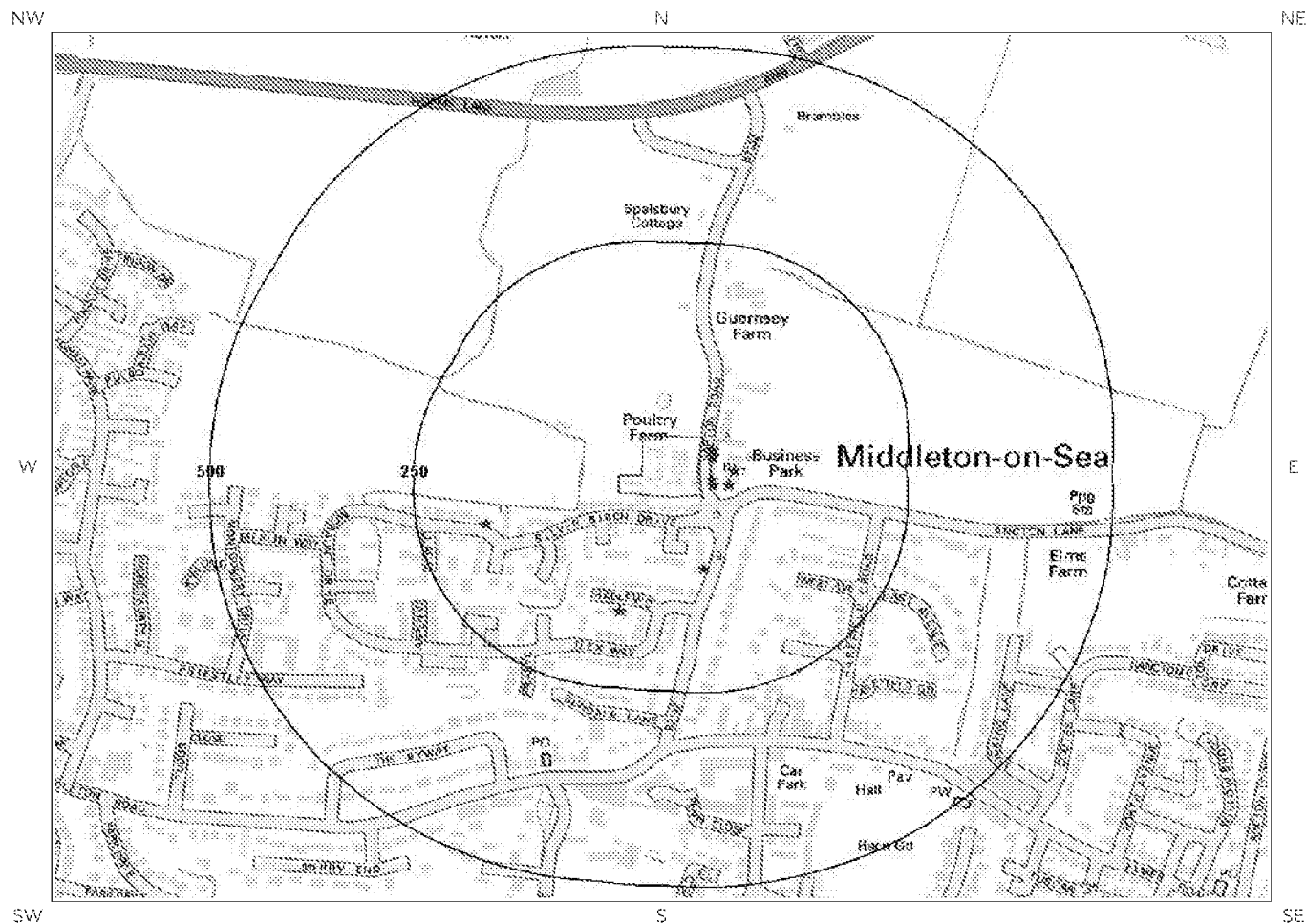
Database searched and no data found.

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

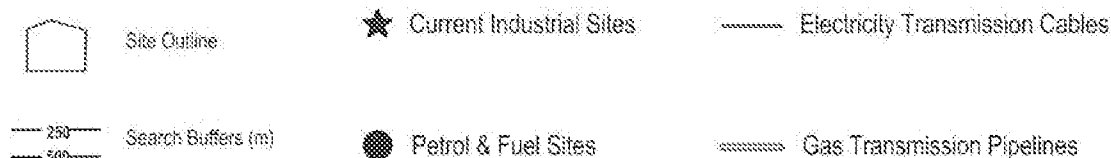
0

Database searched and no data found.

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:

11

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1B	13	E	Sussex Screen Printing	497435 100733	1-3 Middleton Business Park, Yapton Road, Middleton-on-Sea, Bognor Regis, West Sussex, PO22 6HS	Plate Makers, Print Finishers and Type Setters	IT, Advertising, Marketing and Media Services
2A	14	E	Tivo Technology	497437 100772	10 Middleton Business Park, Yapton Road, Middleton-on-Sea, Bognor Regis, West Sussex, PO22 6HS	Electronic Equipment	Industrial Products
3A	14	E	Attivo Technology	497437 100772	10 Middleton Business Park, Yapton Road, Middleton-on-Sea, Bognor Regis, West Sussex, PO22 6HS	Electronic Equipment	Industrial Products
4A	14	E	Test Line	497436 100763	7-8 Middleton Business Park, Yapton Road, Middleton-on-Sea, Bognor Regis, West Sussex, PO22 6HS	Measurement and Inspection Equipment	Industrial Products
5A	14	E	Testability	497436 100762	7-8 Middleton Business Park, Yapton Road, Middleton-on-Sea, Bognor Regis, West Sussex, PO22 6HS	Electrical and Electronic Engineers	Engineering Services
6B	15	E	Electricity Sub Station	497438 100726	West Sussex, PO22	Electrical Features	Infrastructure and Facilities
7	33	E	Middleton Business Park	497456 100726	West Sussex, PO22	Business Parks and Industrial Estates	Industrial Features
8	42	E	Dukes Motors Ltd	497463 100745	24 Middleton Business Park, Yapton Road, Middleton-on-Sea, Bognor Regis, West Sussex, PO22 6HS	Vehicle Repair, Testing and Servicing	Repair and Servicing
9	90	S	Electricity Sub Station	497426 100619	West Sussex, PO22	Electrical Features	Infrastructure and Facilities
10	150	S	Celebration Decoration Balloons	497323 100565	12, Hadley Close, Bognor Regis, West Sussex, PO22 6PG	Giftware	Consumer Products
11	166	W	Electricity Sub Station	497161 100677	West Sussex, PO22	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

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

0

Database searched and no data found.

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
RTDU-XSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY

5.3 Bedrock and Solid Geology

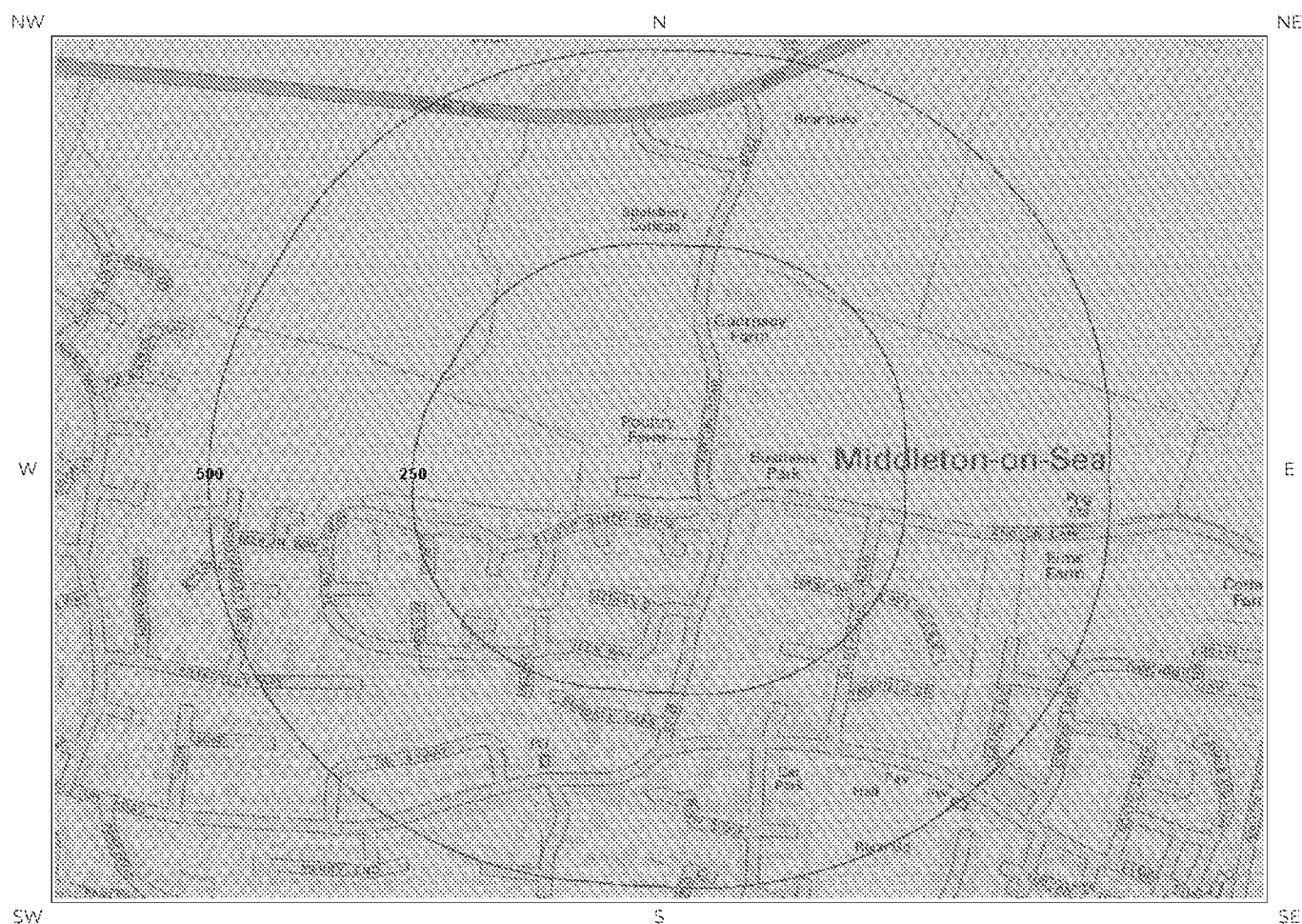
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LPCK-CHLK	LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION, NEWHAVEN CHALK FORMATION, CULVER CHALK FORMATION AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED)	CHALK

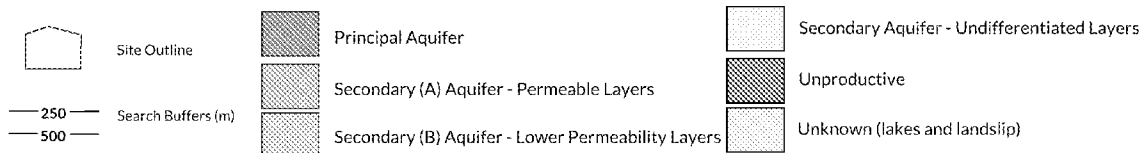
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

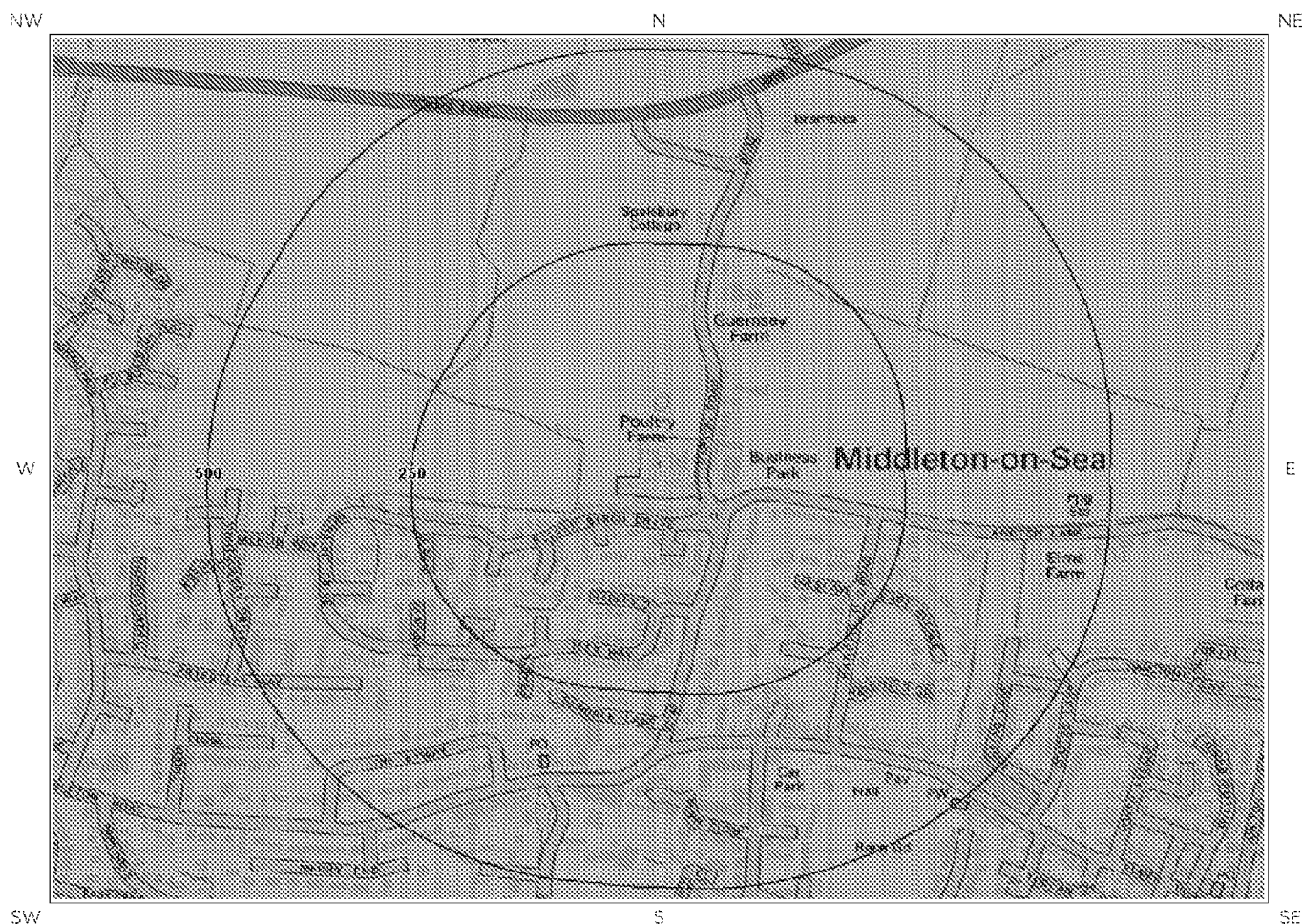
6a. Aquifer Within Superficial Geology



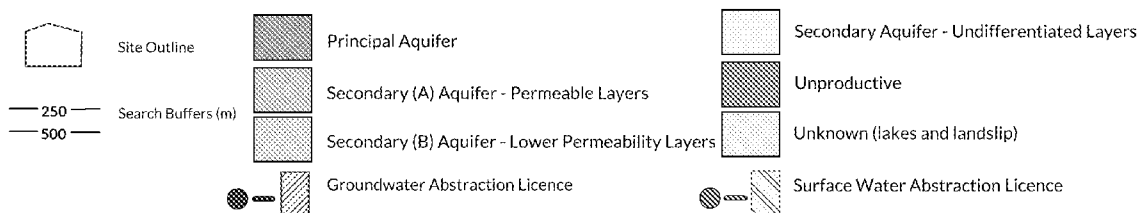
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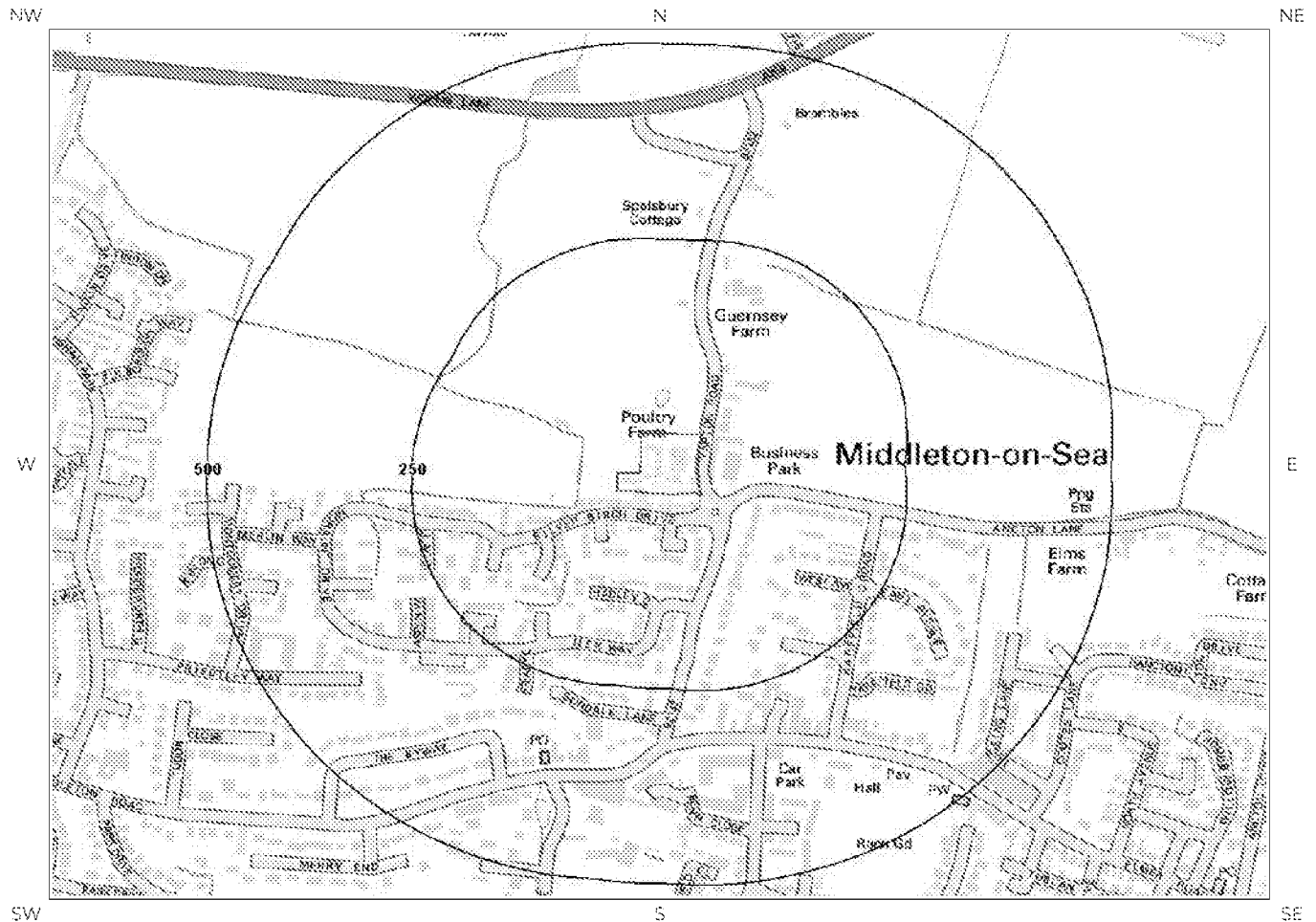
6b. Aquifer Within Bedrock Geology and Abstraction Licences



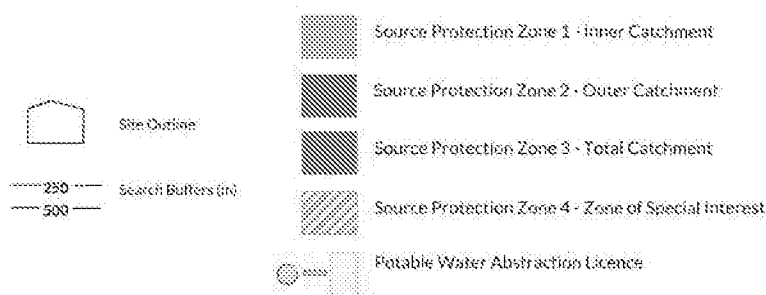
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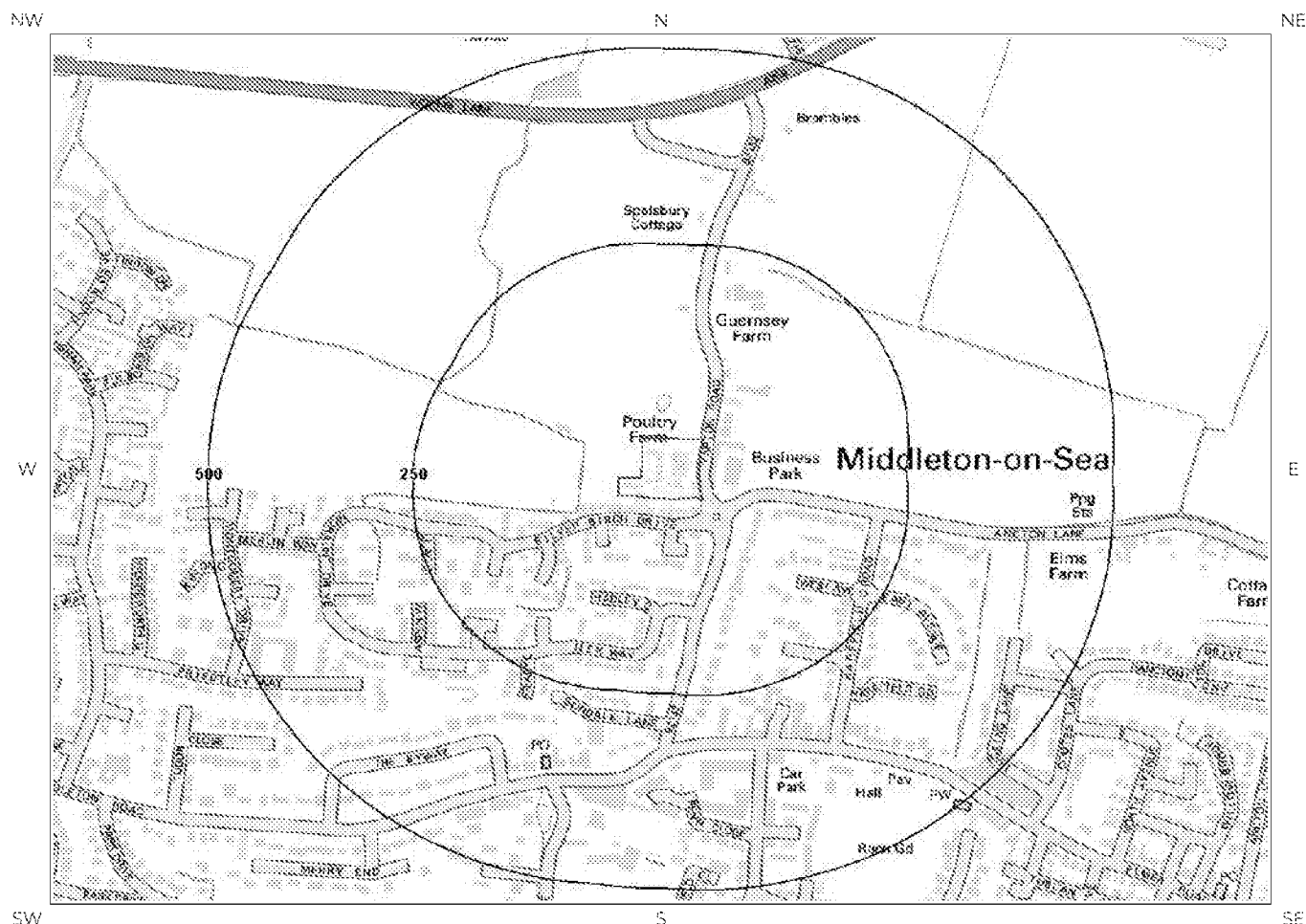
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences



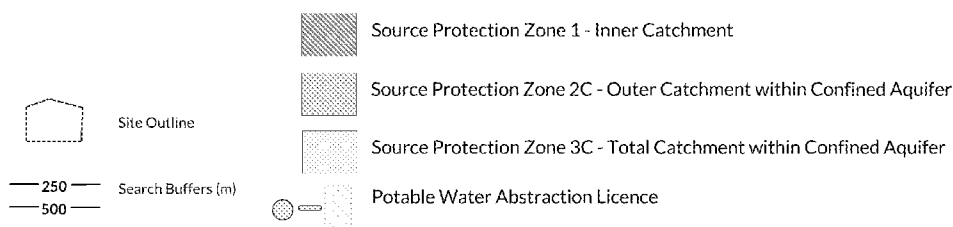
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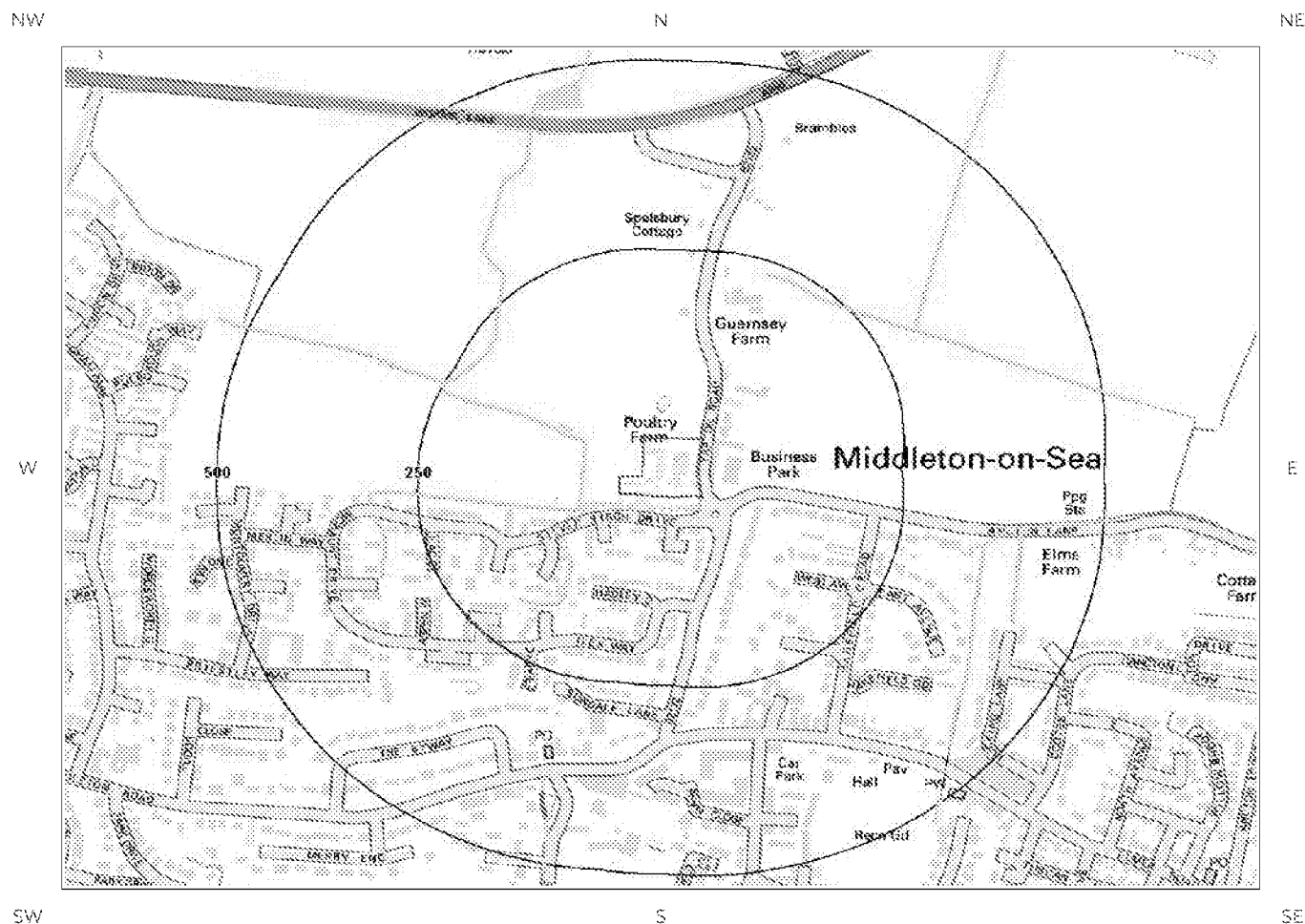
6d. Hydrogeology – Source Protection Zones within confined aquifer



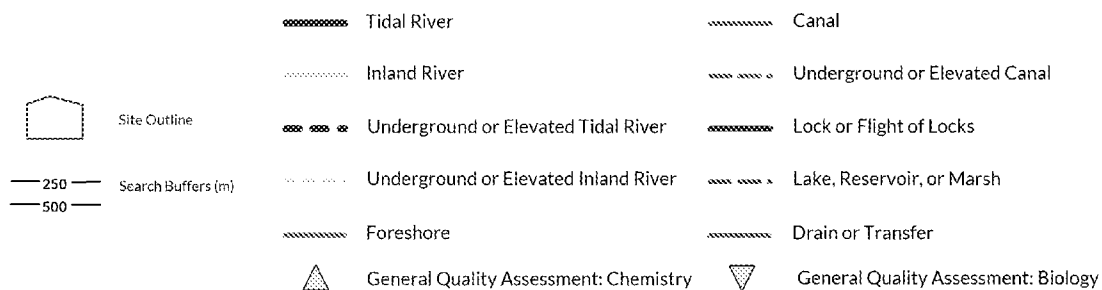
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6e. Hydrology – Watercourse Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

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

6.2 Aquifer within Bedrock Deposits

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	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

6.3 Groundwater Abstraction Licences

Groundwater Abstraction Licences within 2000m of the study site

Identified

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	949	NW	496680 101460	Status: Historical Licence No: 10/41/541002 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: POINT 3 AT SHRIPNEY FARM & FLANSHAM FARM Data Type: Point Name: The Donald Langmead Partnership Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 21/03/2001 Version End Date:
Not shown	1332	NW	496440 101760	Status: Historical Licence No: 10/41/541002 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: POINT 2 AT SHRIPNEY FARM & FLANSHAM FARM Data Type: Point Name: The Donald Langmead Partnership Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 21/03/2001 Version End Date:
Not shown	1432	NW	496080 101450	Status: Historical Licence No: 10/41/542002 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: AT FLANSHAM FARM, FLANSHAM Data Type: Point Name: The Donald Langmead Partnership Annual Volume (m³): 9092 Max Daily Volume (m³): 27.2 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 07/12/1992 Version End Date:
Not shown	1902	E	499260 101290	Status: Active Licence No: 10/41/542009 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: POINT A AT NEW BARN, CLIMPING Data Type: Point Name: Baird Annual Volume (m³): 36368 Max Daily Volume (m³): 136.3 Original Application No: - Original Start Date: 21/03/1977 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2016 Version End Date:

6.4 Surface Water Abstraction Licences

Surface Water Abstraction Licences within 2000m of the study site

Identified

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
7	595	NE	497800 101250	Status: Historical Licence No: 10/41/542011 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: POINTS A&B AT RYEBANK RIFE, MIDDLETON Data Type: Line Name: Gibbs Annual Volume (m³): 4550 Max Daily Volume (m³): 45 Application No: - Original Start Date: 19/08/1988 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2016 Version End Date:
Not	717	N	496190	Status: Historical Annual Volume (m³): 27272

ID	Distance (m)	Direction	NGR	Details	
shown			101940	Licence No: 10/41/411016 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE - NEW REACH Data Type: Line Name: James D Baird (Home Farm) Ltd	Max Daily Volume (m³): 2182 Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 08/06/2009 Version End Date:
Not shown	787	NE	498000 101370	Status: Historical Licence No: 10/41/542011 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: POINTS C&D AT RYEBANK RIFE, MIDDLETON Data Type: Line Name: Gibbs	Annual Volume (m³): 4550 Max Daily Volume (m³): 45 Application No: - Original Start Date: 19/08/1988 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2016 Version End Date:
Not shown	1287	NE	501710 102210	Status: Historical Licence No: 10/41/411016 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE AND ELMER RIFE Data Type: Line Name: Baird	Annual Volume (m³): 27272 Max Daily Volume (m³): 1091 Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 08/12/2005 Version End Date:
Not shown	1296	NE	501720 102160	Status: Active Licence No: 10/41/411016 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE Data Type: Line Name: James D Baird (Home Farm) Ltd	Annual Volume (m³): 27272 Max Daily Volume (m³): 1091 Application No: - Original Start Date: 13/06/1967 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2016 Version End Date:
Not shown	1417	NW	496390 101830	Status: Historical Licence No: 27/209 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE, POINT A - BILSHAM Data Type: Point Name: Langmead Farms Ltd	Annual Volume (m³): 250402 Max Daily Volume (m³): 7800 Application No: - Original Start Date: 18/12/2007 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 16/06/2009 Version End Date:
Not shown	1456	NW	496359 101855	Status: Active Licence No: 27/209/R01 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE, POINT A - BILSHAM Data Type: Point Name: Langmead Farms Ltd	Annual Volume (m³): 250402 Max Daily Volume (m³): 7800 Application No: - Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date:
Not shown	1652	E	499270 101180	Status: Active Licence No: 10/41/411016 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: ELMER RIFE Data Type: Line Name: James D Baird (Home Farm) Ltd	Annual Volume (m³): 27272 Max Daily Volume (m³): 1091 Application No: - Original Start Date: 13/06/1967 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2016 Version End Date:

6.5 Potable Water Abstraction Licences

Potable Water Abstraction Licences within 2000m of the study site

None identified

Database searched and no data found.

6.6 Source Protection Zones

Source Protection Zones within 500m of the study site

None identified

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Source Protection Zones within the Confined Aquifer within 500m of the study site

None identified

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

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

Identified

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Major Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.
7	S	Major 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.
306	NW	Major Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site None identified

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Ordnance Survey MasterMap Water Network

Ordnance Survey MasterMap Water Network entries within 500m of the study site

This watercourse information is provided by Ordnance Survey MasterMap Water Network. The data provides a detailed centre line following the curve of the waterway precisely, so all distances provided in the report should be understood as measurements to the centreline rather than a measurement to the nearest point of the watercourse. Underground watercourses are inferred from entry and exit points so caution is advised in using these to indicate precise locations of underground watercourses when planning site investigation and development.

The following Ordnance Survey MasterMap Water Network records are represented on the Hydrology Map (6e):

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
1	46 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
5	46 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
2	107 SW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
6	107 SW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
3	224 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				conditions) Average Width in Watercourse Section (m): 1.7
7	224 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
4	233 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
8	233 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
5	250 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
9	250 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
6	297 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
10	297 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
7	301 NE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
8	301 NE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
11	301 NE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
12	301 NE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
9	347 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
13	347 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5
10	352 NE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
14	352 NE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
11	355 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.2
15	355 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.2
12	374 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
16	374 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
13	388 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	388 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
14	398 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
15	398 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	398 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
Not shown	398	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Underground

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	E			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
16	402 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	402 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	408 S	Not Specified	Lake, loch or reservoir.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 10.6
Not shown	408 S	Not Specified	Lake, loch or reservoir.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 10.6
18	409 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	409 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
19	412 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	412 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
20	425 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	425 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
21	426 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
Not shown	426 E	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): 1.3
22	435 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	435 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
23	441 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	441 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	447 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	447 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	449 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	449 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
26	455 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	455 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
27	469 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	469 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
28	476 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	476 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	478 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
30	478 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	478 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	478 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
31	482 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	482 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
32	491 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	491 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
33	493 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	493 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
34	499	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	S			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	499 S	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Rother and Arun Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

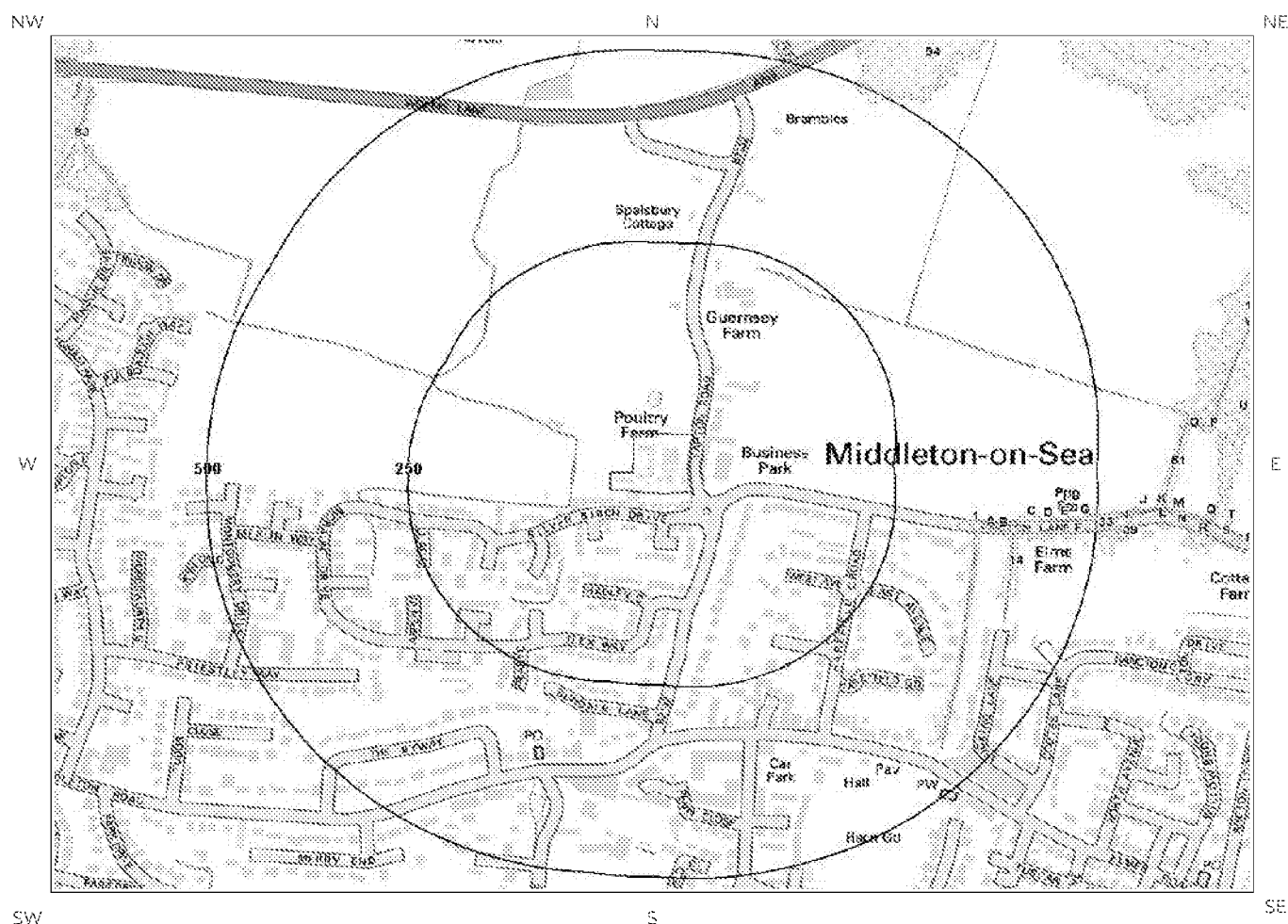
6.11 Surface Water Features

Surface water features within 250m of the study site Identified

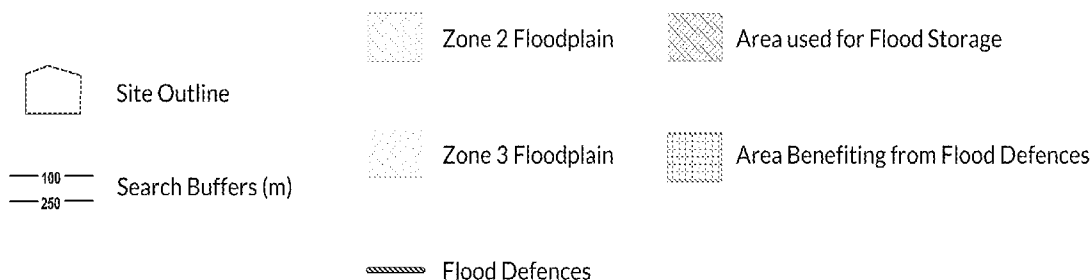
The following surface water records are not represented on mapping:

Distance (m)	Direction
46	W
48	W
232	N

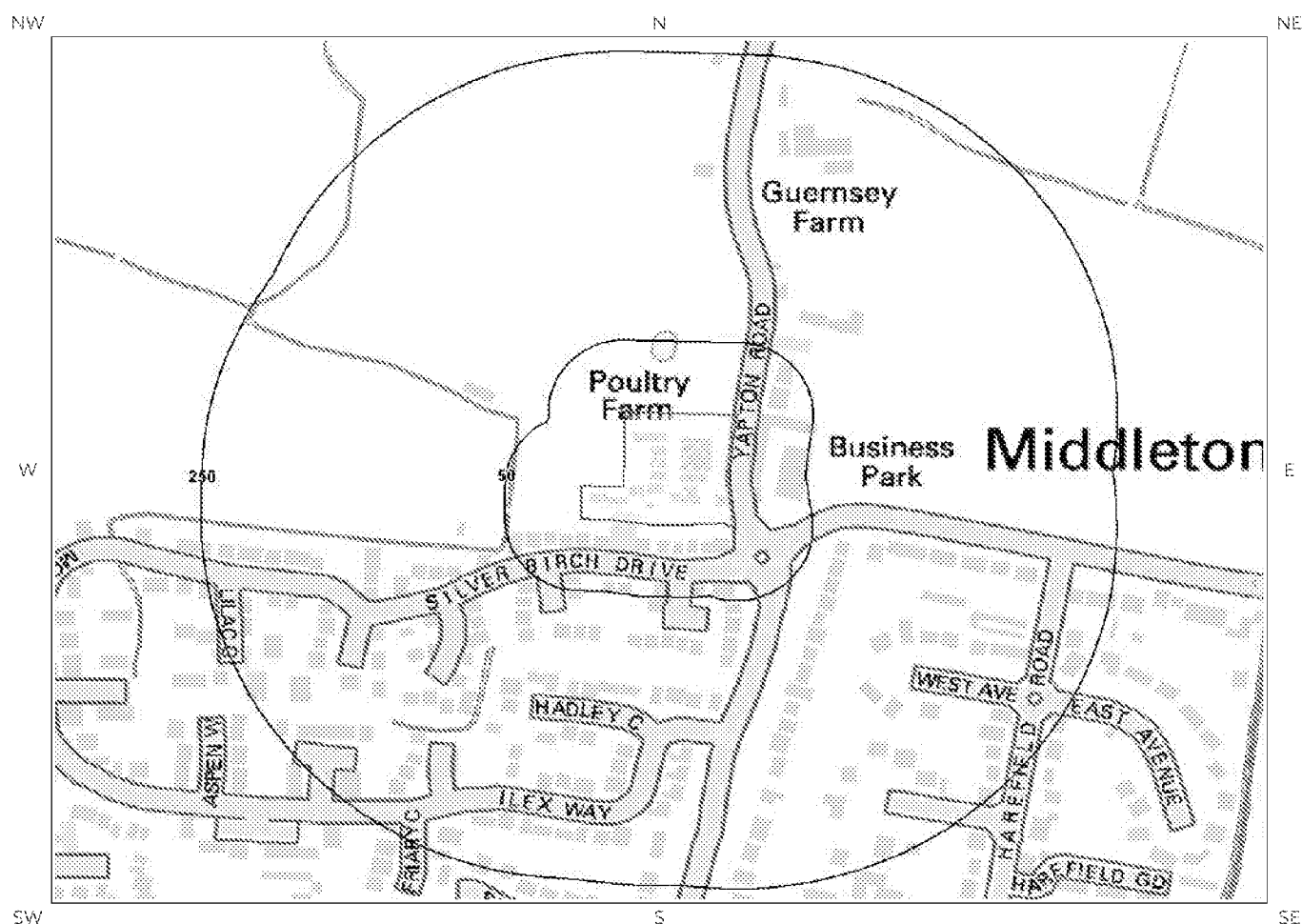
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



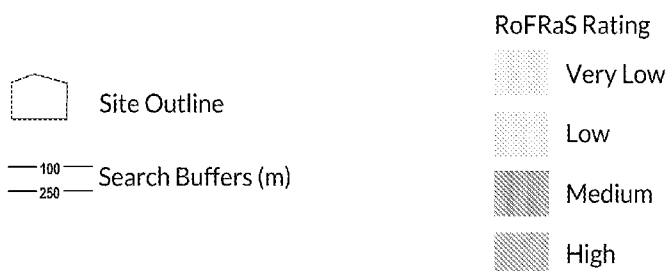
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m None identified

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

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m None identified

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

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

Flood Defences within 250m of the study site None identified
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site None identified

7.6 Areas benefiting from Flood Storage

Areas used for Flood Storage within 250m of the study site

None identified

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site

Identified

Clearwater Flooding or Superficial Deposits Flooding

Clearwater 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 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result

High

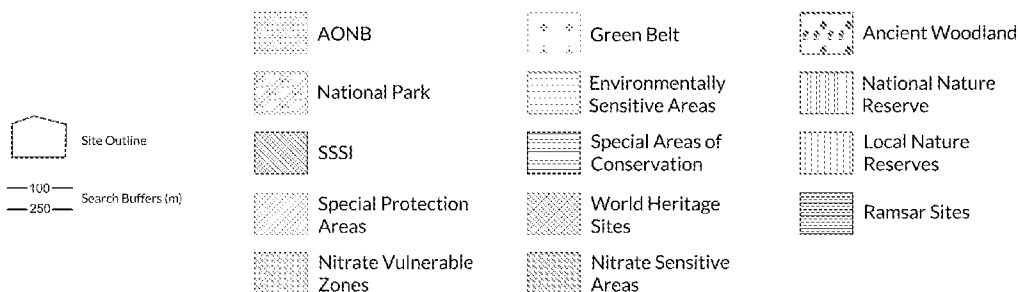
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

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

Designated Environmentally Sensitive Sites within 2000m of the study site

Identified

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

0

Database searched and no data found.

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:

0

Database searched and no data found.

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:

1

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
1	0	On Site	Existing	DEFRA

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

Maximum Shrink-Swell** hazard rating identified on the study site Low

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

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

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

Maximum Soluble 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
Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

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

9.1.4 Compressible Ground

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

Maximum Collapsible Rocks* hazard rating identified on the study site

Low

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

Hazard
Slight possibility for collapsible deposit problems after major changes in loading or groundwater conditions. Normal maintenance to avoid large amounts of water entering the ground through pipe leakage or soak-aways should reduce the likelihood of problems due to collapsible deposits. For new build, assess the possibility of collapsible (loessic) deposits in ground investigation. For existing property, no significant increase in insurance risk from collapsible deposits is likely.

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site

Low

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

Hazard
Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

* 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 site is not in a Radon Affected Area, as less than 1% 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? No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Coal mining areas within 75m of the study site

None identified

Database searched and no data found.

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary

None identified

Database searched and no data found.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site

None identified

Guidance: No Guidance Required.

Contact Details

emapsite™



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/Natural Resources Wales 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-feb11-2019>

APPENDIX 04

GroundSure GeoInsight Report



EmapSite

Report Reference: EMS-529911_712740

Masdar House, 1 Reading Road,
Eversley, RG27 0RP

Your Reference: EMS_529911_712740

Report Date 28 Feb 2019

Report Delivery Email - pdf
Method:

Geo Insight

Address: Yapton Road Poultry Farm, Middleton-on-Sea, PO22 6DY,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Geo Insight

Address: Yapton Road Poultry Farm, Middleton-on-Sea, PO22 6DY,
Date: 28 Feb 2019
Reference: EMS-529911_712740
Client: EmapSite



Aerial Photograph Capture date: 20-May-2015
Grid Reference: 497382,100748
Site Size: 0.6144ha

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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?	No

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?

No

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 not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

No 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	0	2	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	0	1	0

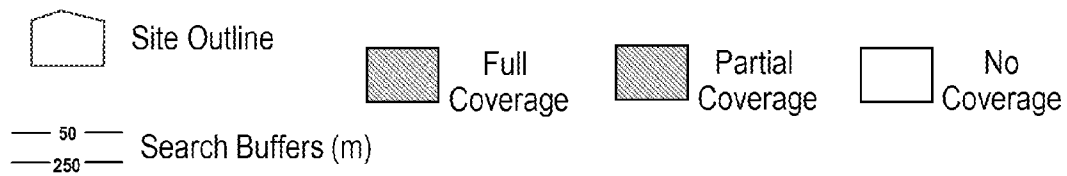
Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	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	Low				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Very Low				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Low				
6.5 Running Sand	Low				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	0		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	1	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	

A topographic map of the New Madrid, Missouri area. A large circle is drawn on the map, centered on the city of New Madrid. The circle is labeled with the number '1' in the center and '2' at the bottom. The map shows the Mississippi River to the west and the New Madrid River to the east. The city of New Madrid is located on the Mississippi River. The map includes contour lines and labels for various locations, including New Madrid, Missouri, and the New Madrid River. The map is oriented with North at the top.

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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	No deposits are mapped	Full	Full	No coverage
2	709.0	No deposits are mapped	Full	Full	No coverage

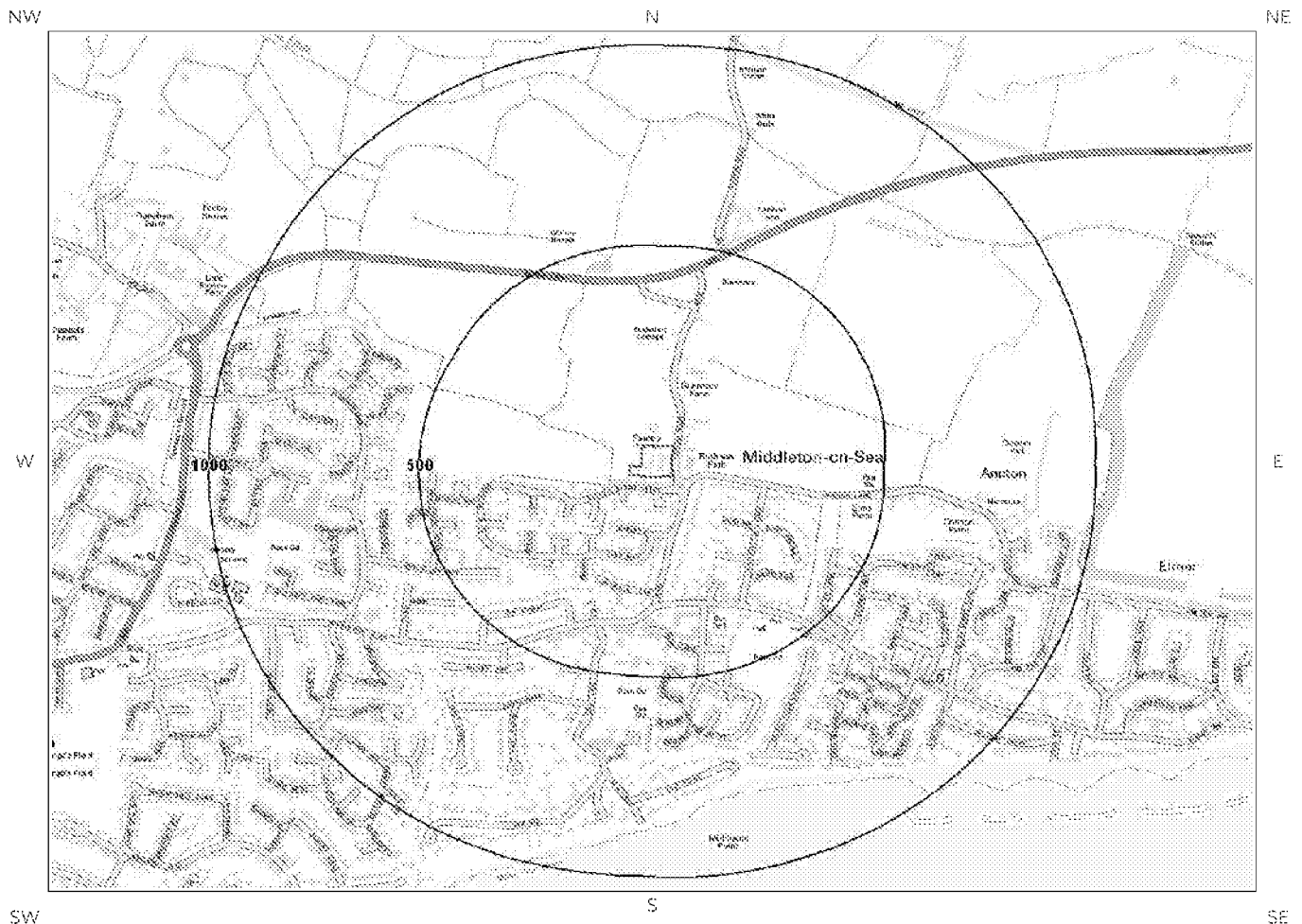
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not 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

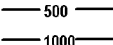
1 Geology (1:10,000 scale).

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



Artificial Ground Legend

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	Site Outline		Made Ground (undivided)		Disturbed Ground (undivided)
	Search Buffers (m)		Worked Ground (undivided)		Landscaped Ground (undivided)
			Infilled Ground		Reclaimed Ground

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? No

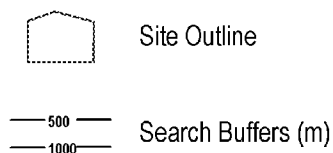
Database searched and no data found.

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	RTDU-Z	River Terrace Deposits (undifferentiated) - Silt (unlithified Deposits Coding Scheme)	Silt

1.2.2 Landslip

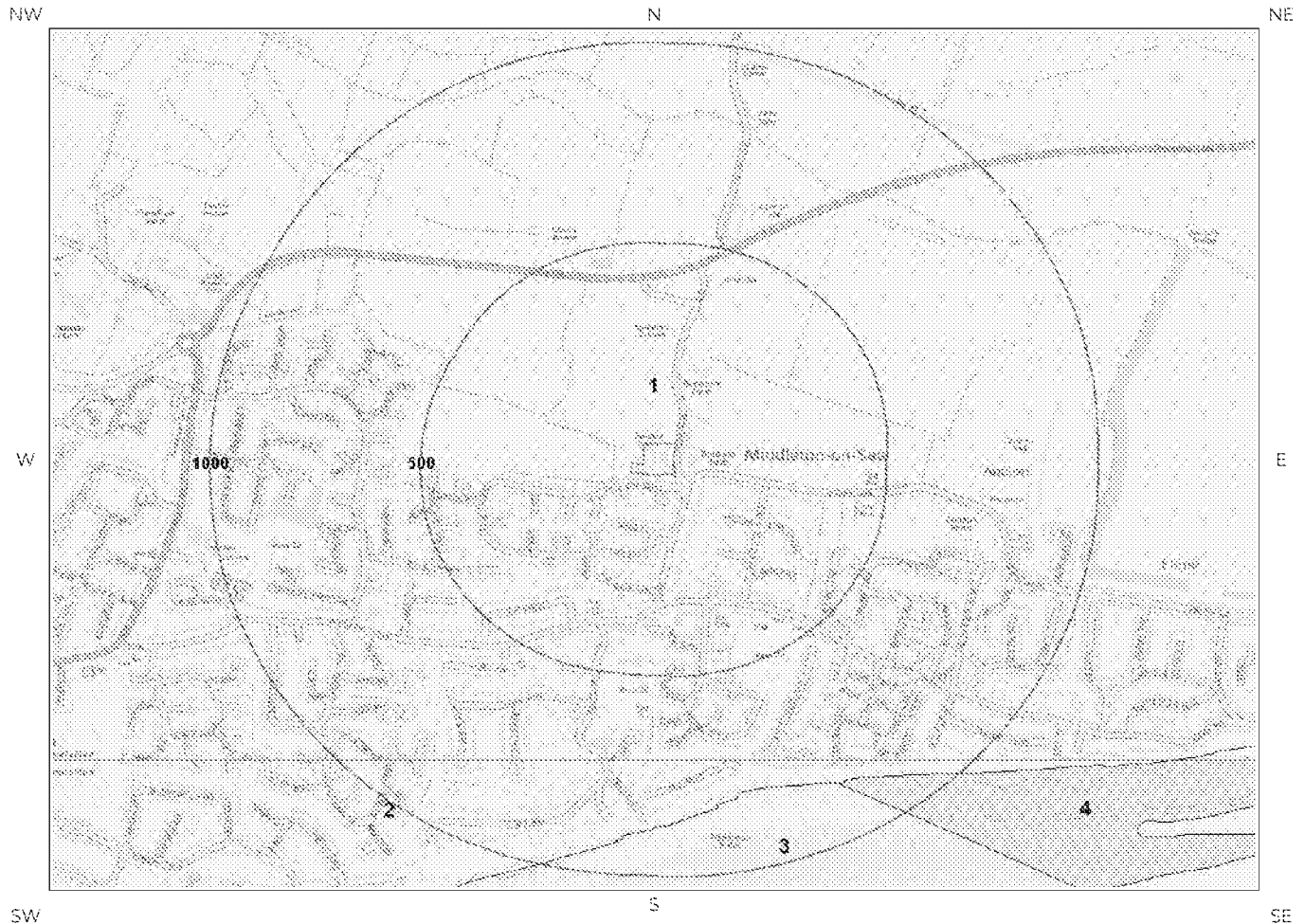
Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

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

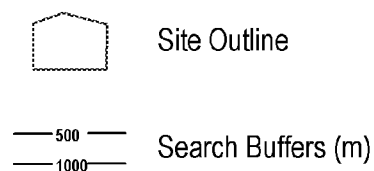
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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	LPCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown Chalk Formation (undifferentiated) - Chalk	Campanian Age - Turonian 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? No

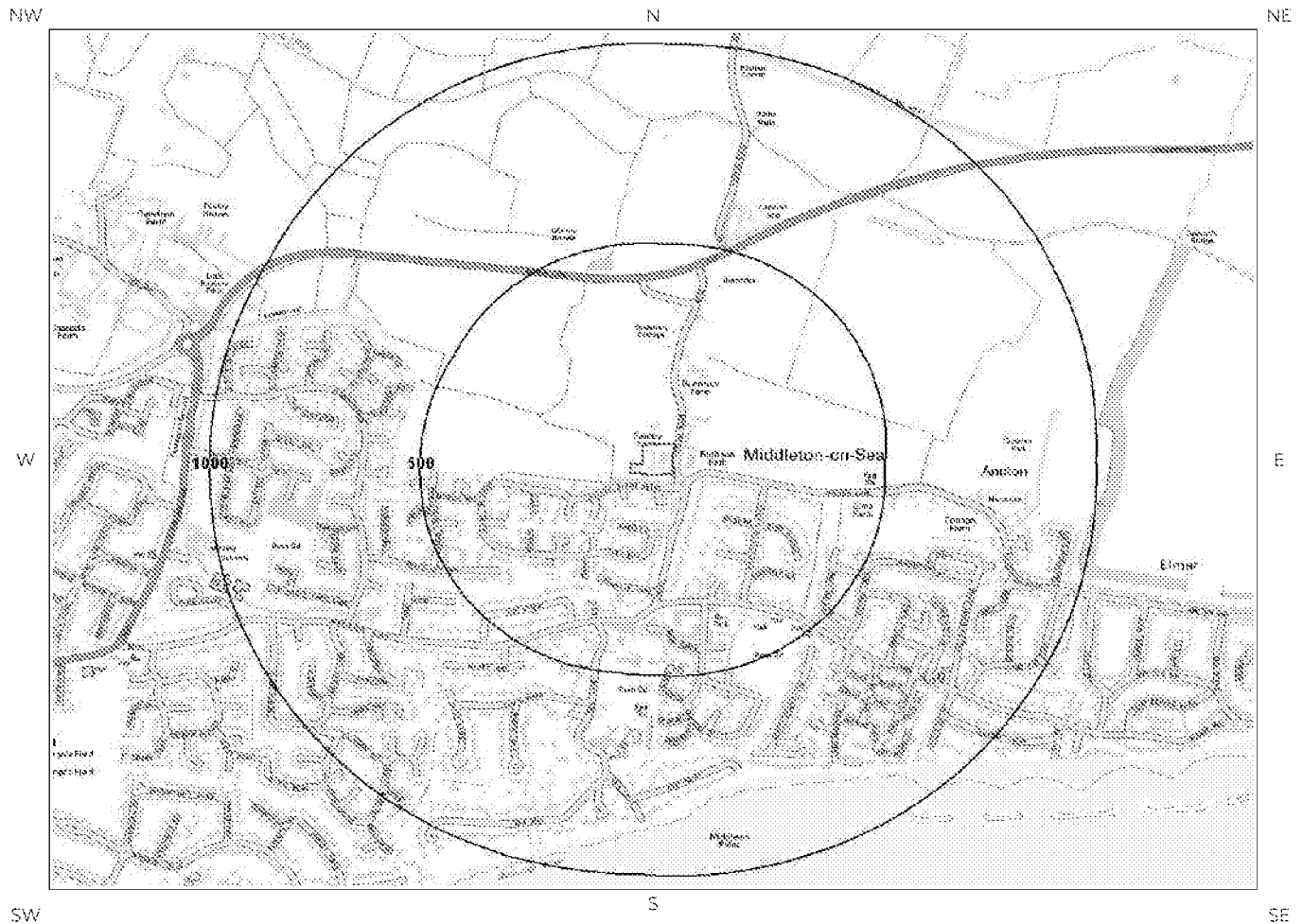
Database searched and no data found at this scale.

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.

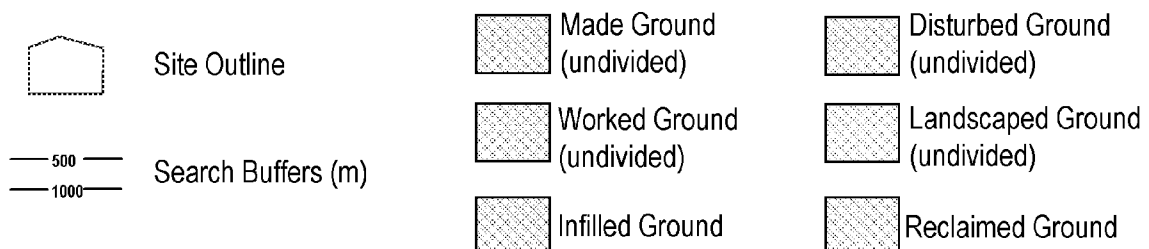
This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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: 332

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? No

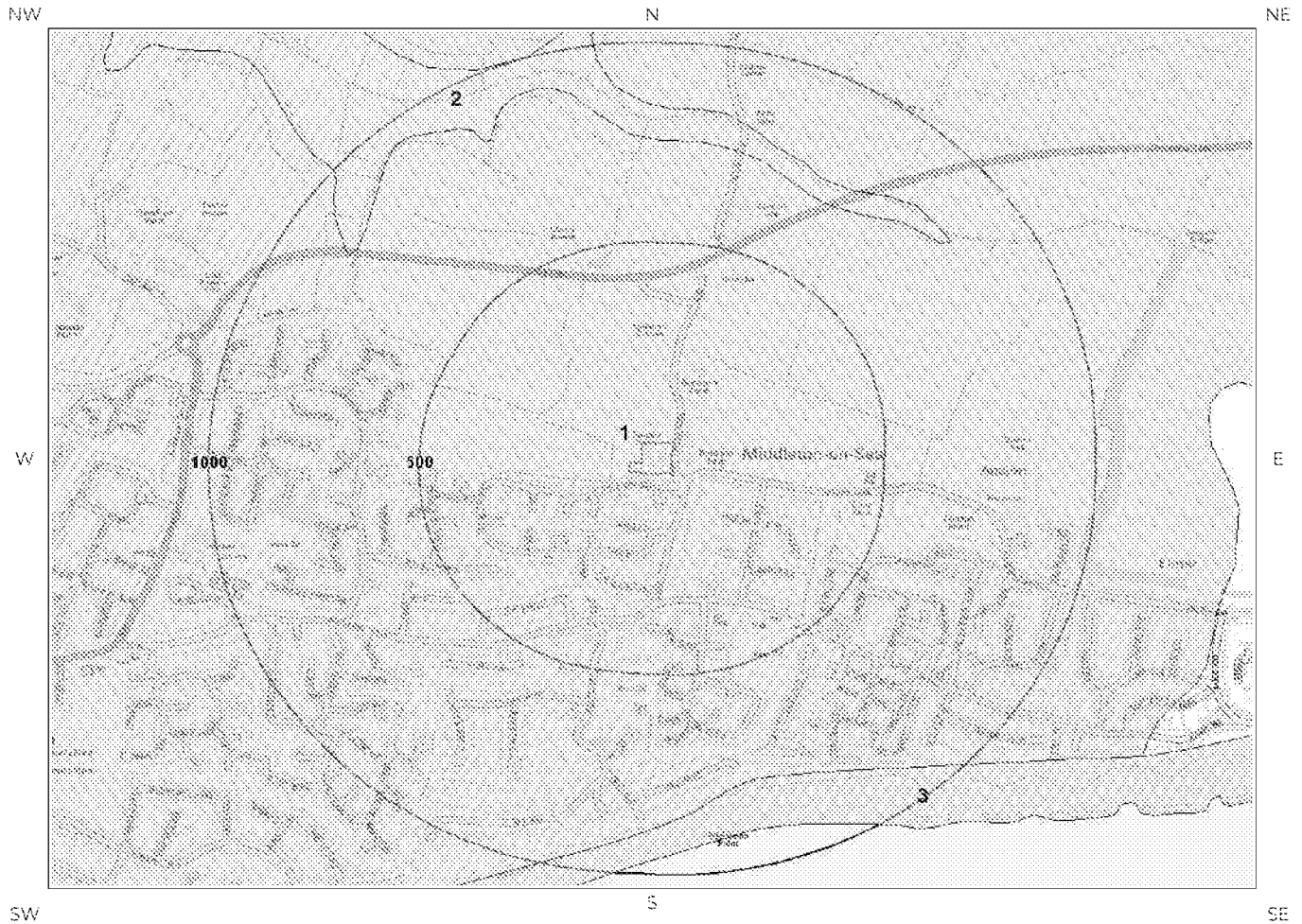
Database searched and no data found.

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.

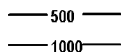
2.2 Superficial Deposits and Landslips map (1:50,000 scale)



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Site Outline



Search Buffers (m)

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	RTDU-XSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY

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	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.

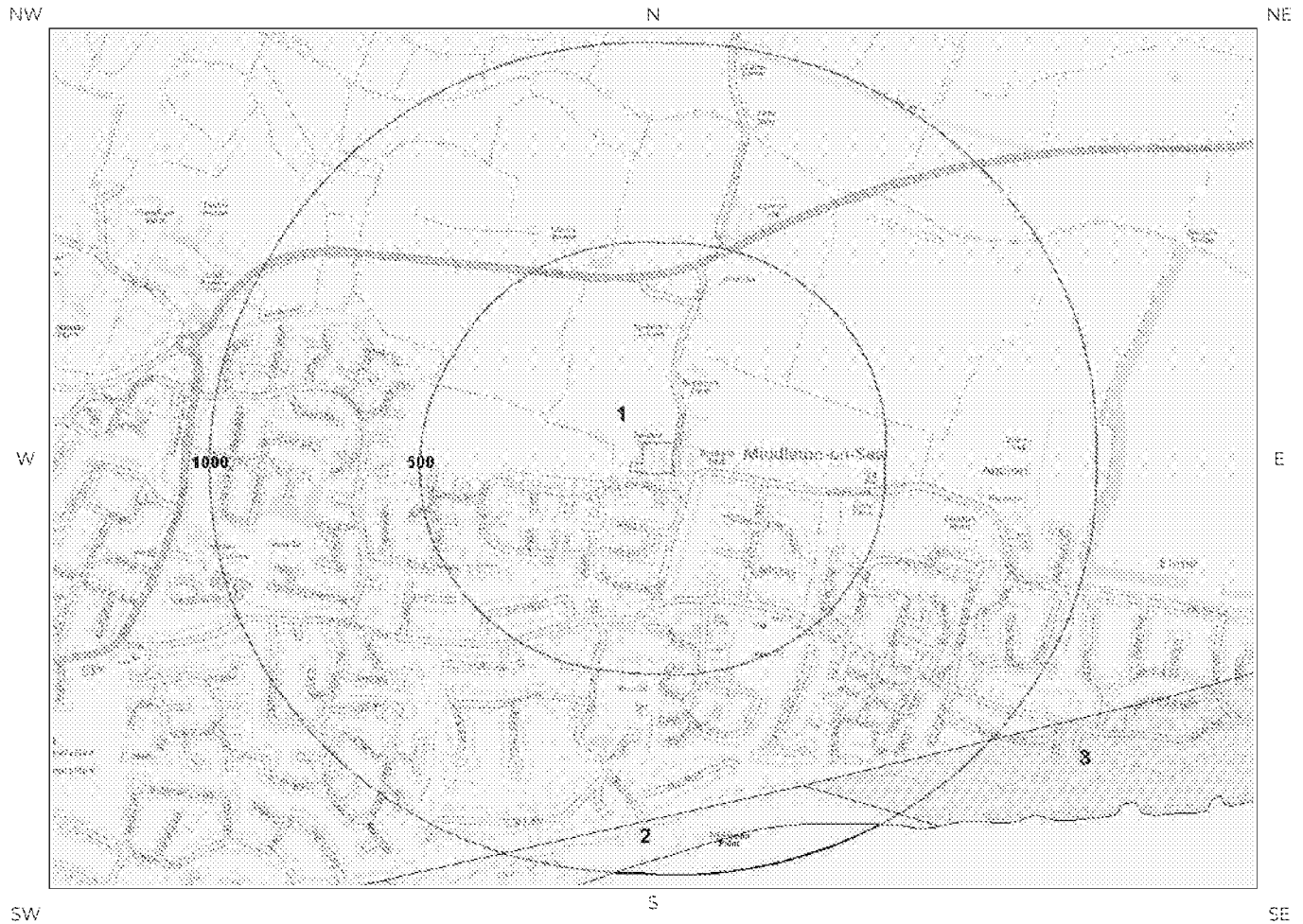
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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.

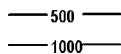
2.3 Bedrock and linear features map (1:50,000 scale)



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Site Outline



Search Buffers (m)

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: 332

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	LPCK-CHLK	LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION, NEWHAVEN CHALK FORMATION, CULVER CHALK FORMATION AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	TURONIAN

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	Very High	Very High

2.3.3 Linear features

Are there any records of linear features 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, 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

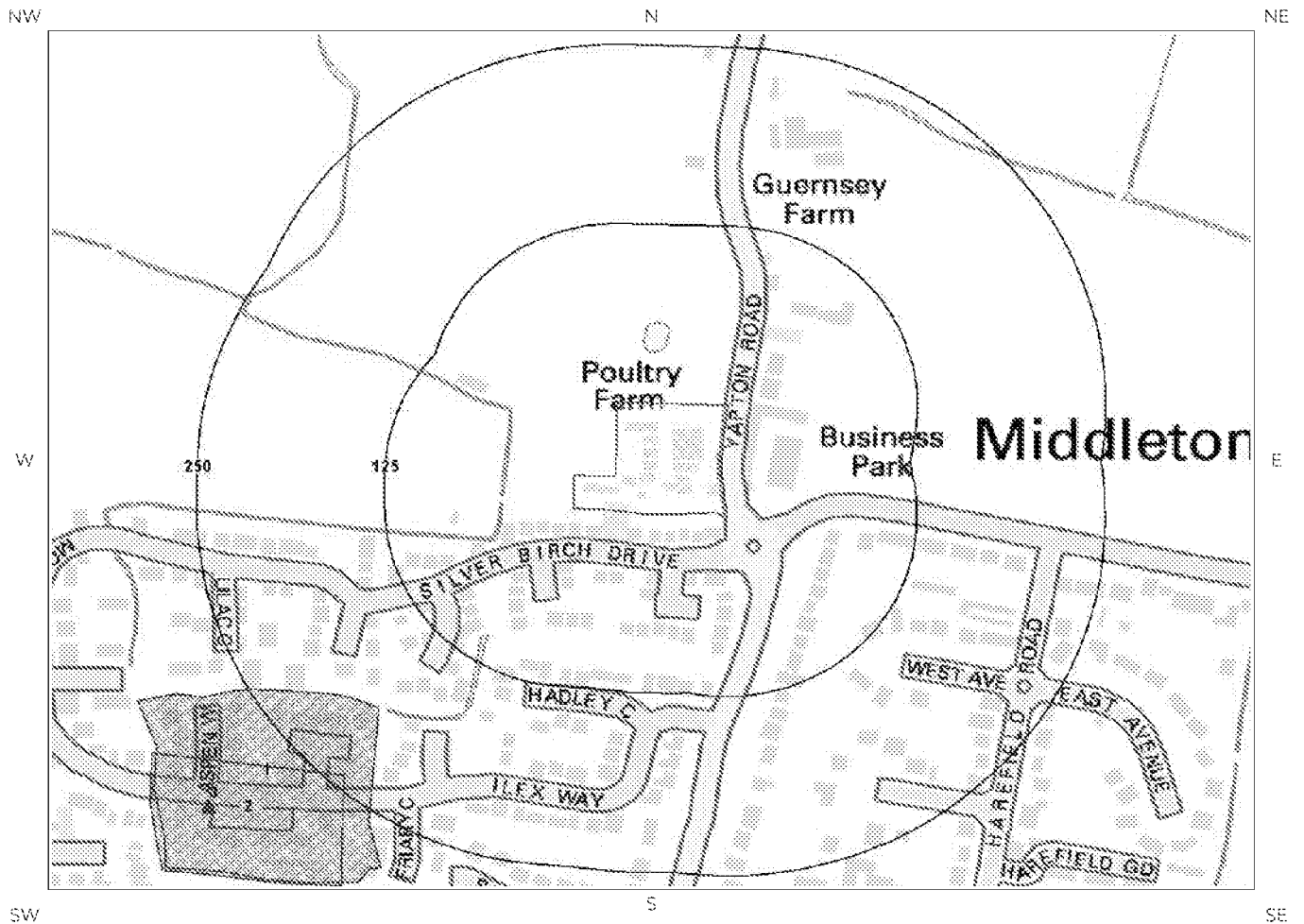
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

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? No radon protective measures are necessary.

4 Ground Workings map



Ground Workings Legend

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- | | | | |
|--|--------------------|--|----------------------------------|
| | Site Outline | | Historic Surface Ground Workings |
| | Search Buffers (m) | | Historic Underground Workings |
| | | | Current Ground Workings |

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	189.0	SW	497115 100521	Brick Field	1932
2	241.0	SW	497106 100498	Brick Field	1910

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? No

Database searched and no data found.

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
3	319.0	SW	497081 100507	Clay & Shale	Middletown Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

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? No

Database searched and no data found.

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? No

Database searched and no data found.

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? No

Database searched and no data found.

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 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.

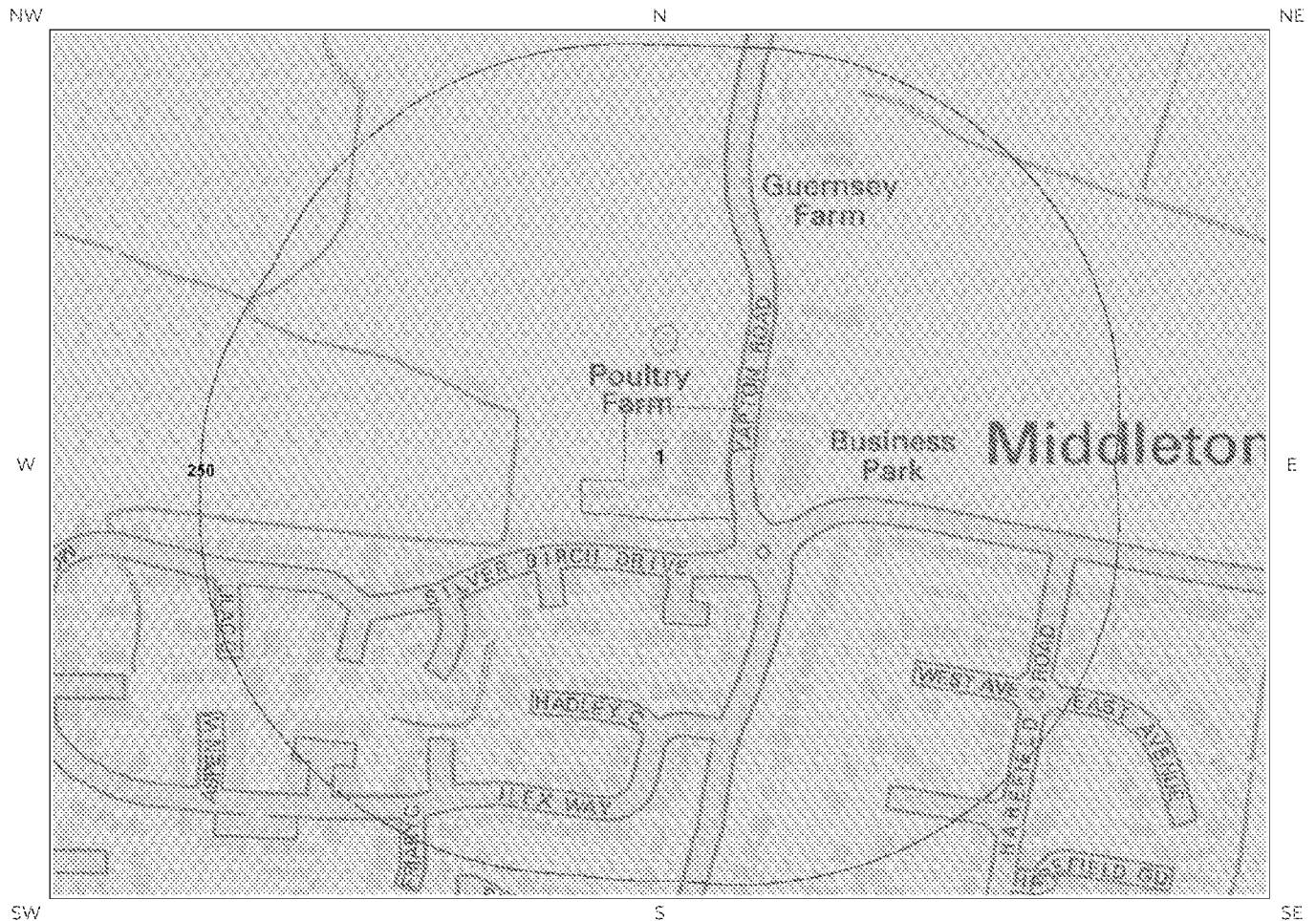
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

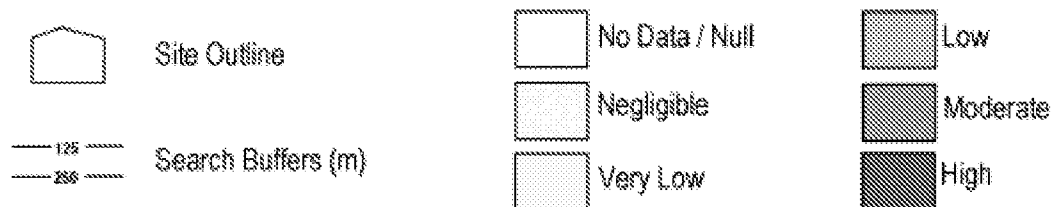
6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map

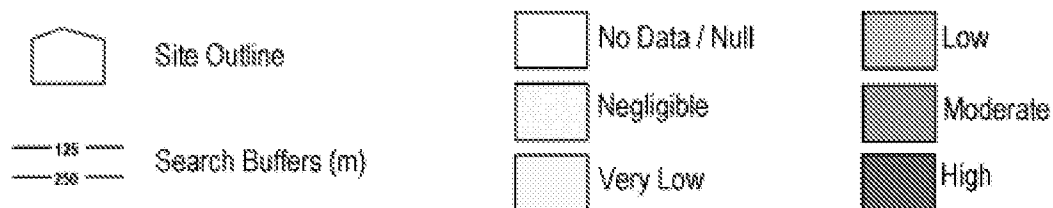
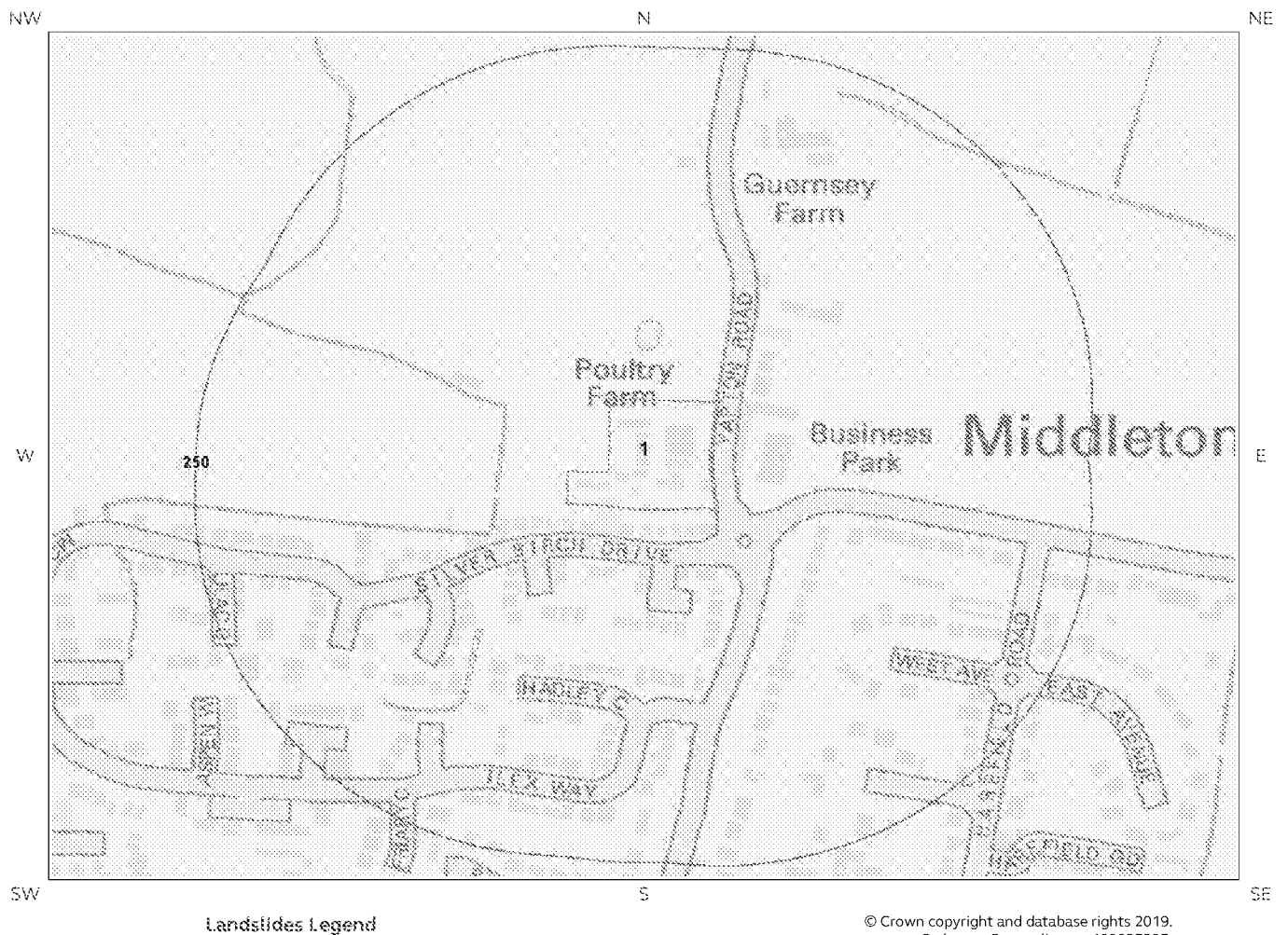


Shrink Swell Clay Legend

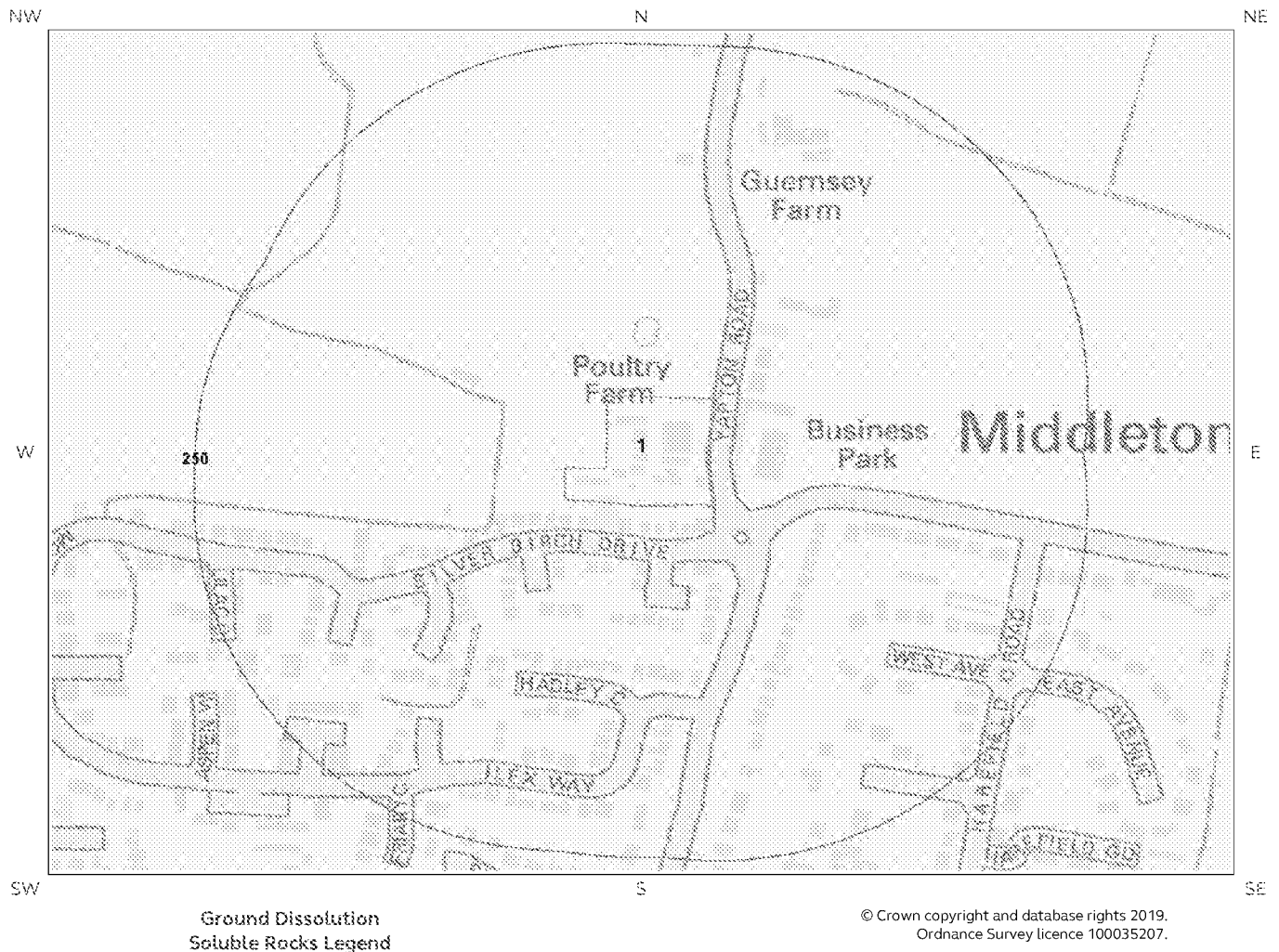
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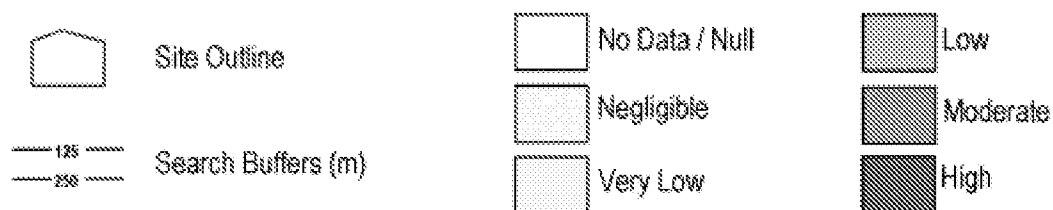
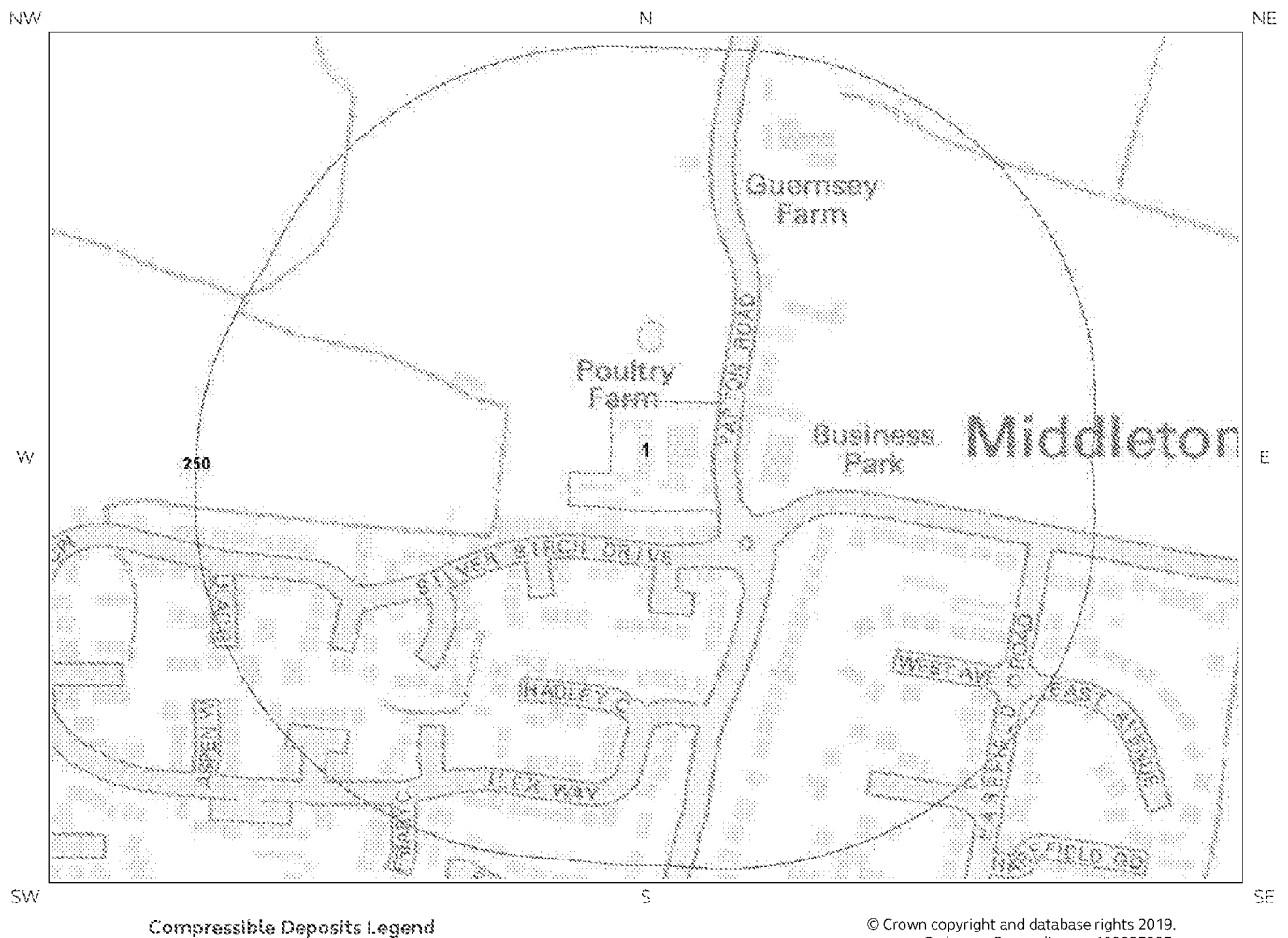
6.2 Landslides map



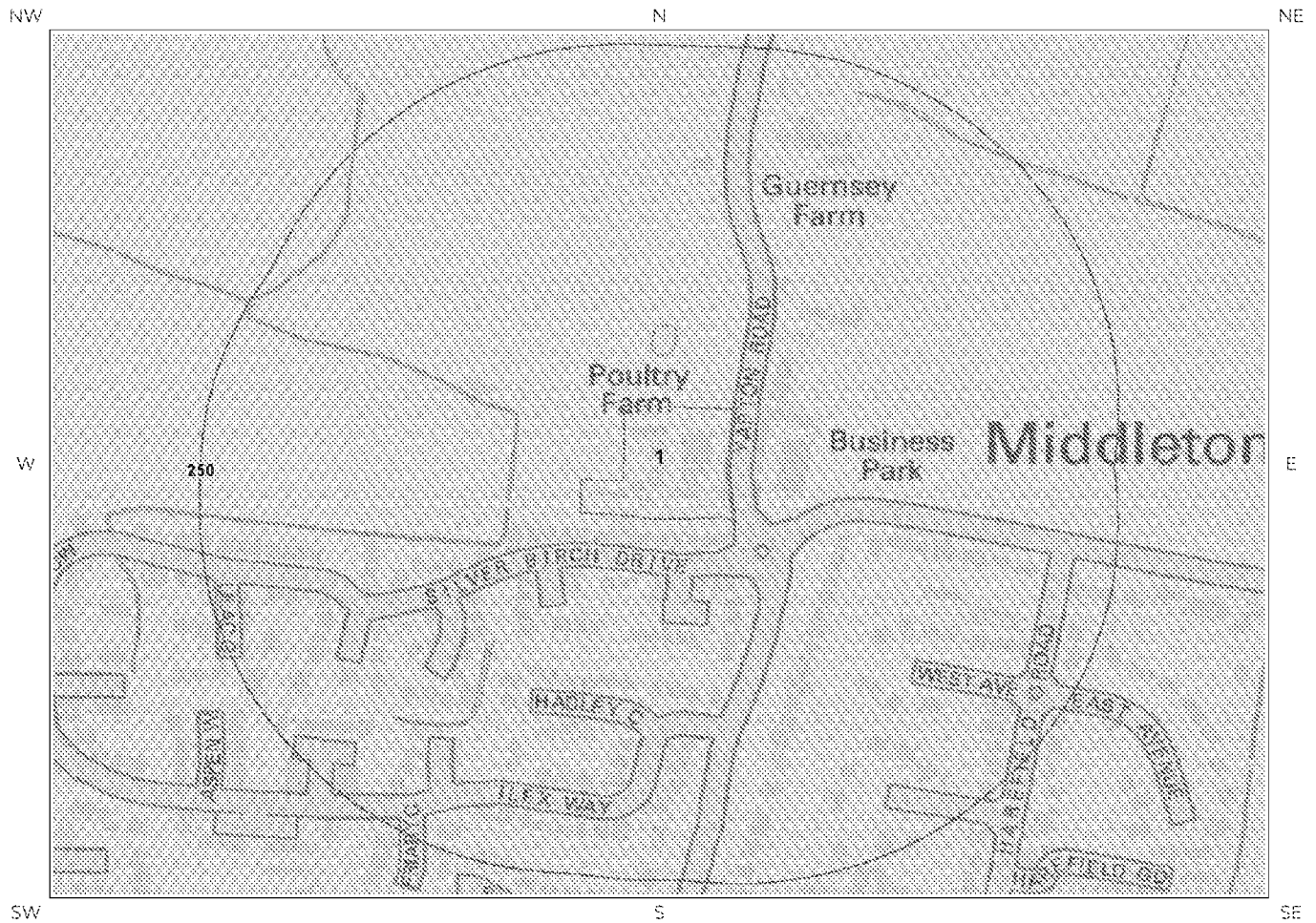
6.3 Ground Dissolution of Soluble Rocks map



6.4 Compressible Deposits map

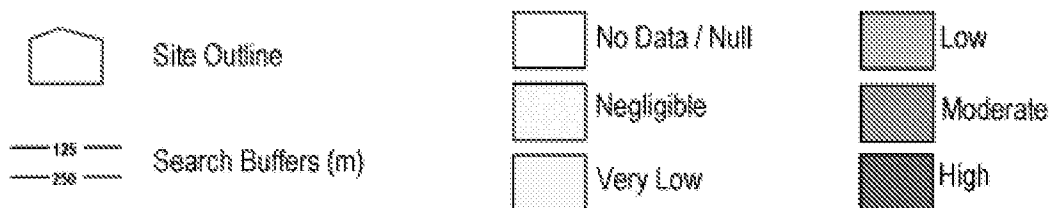


6.5 Collapsible Deposits map

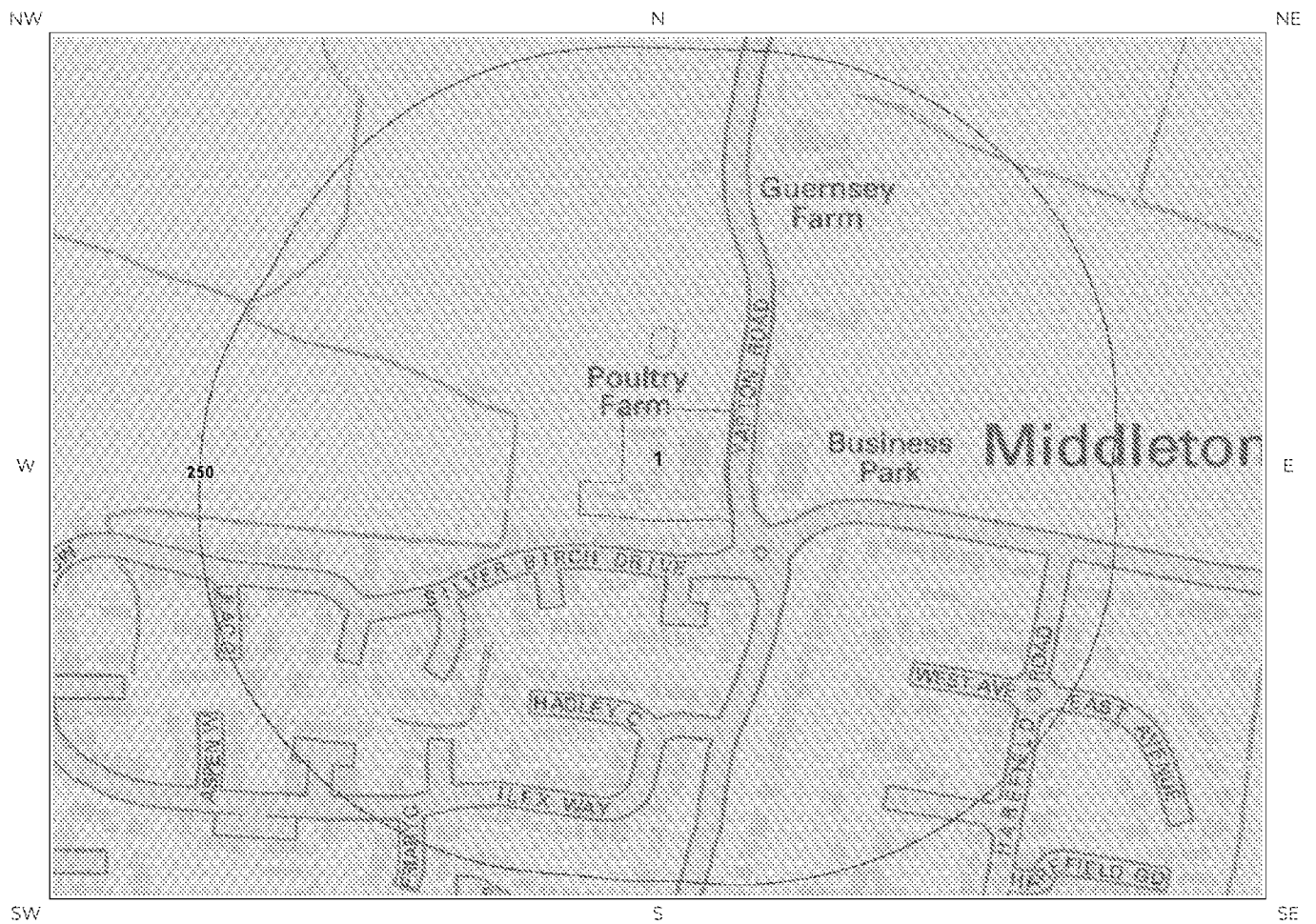


Collapsible Deposits Legend

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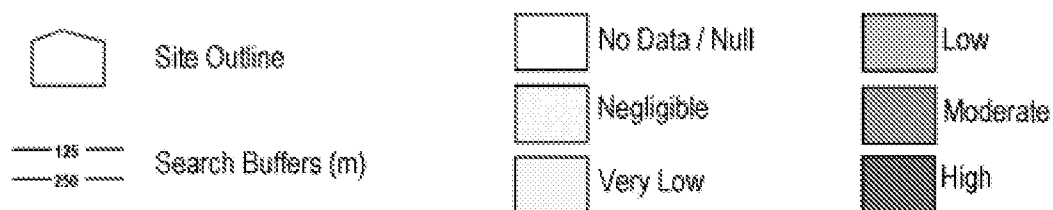


6.6 Running Sand map



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? 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	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

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	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

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:

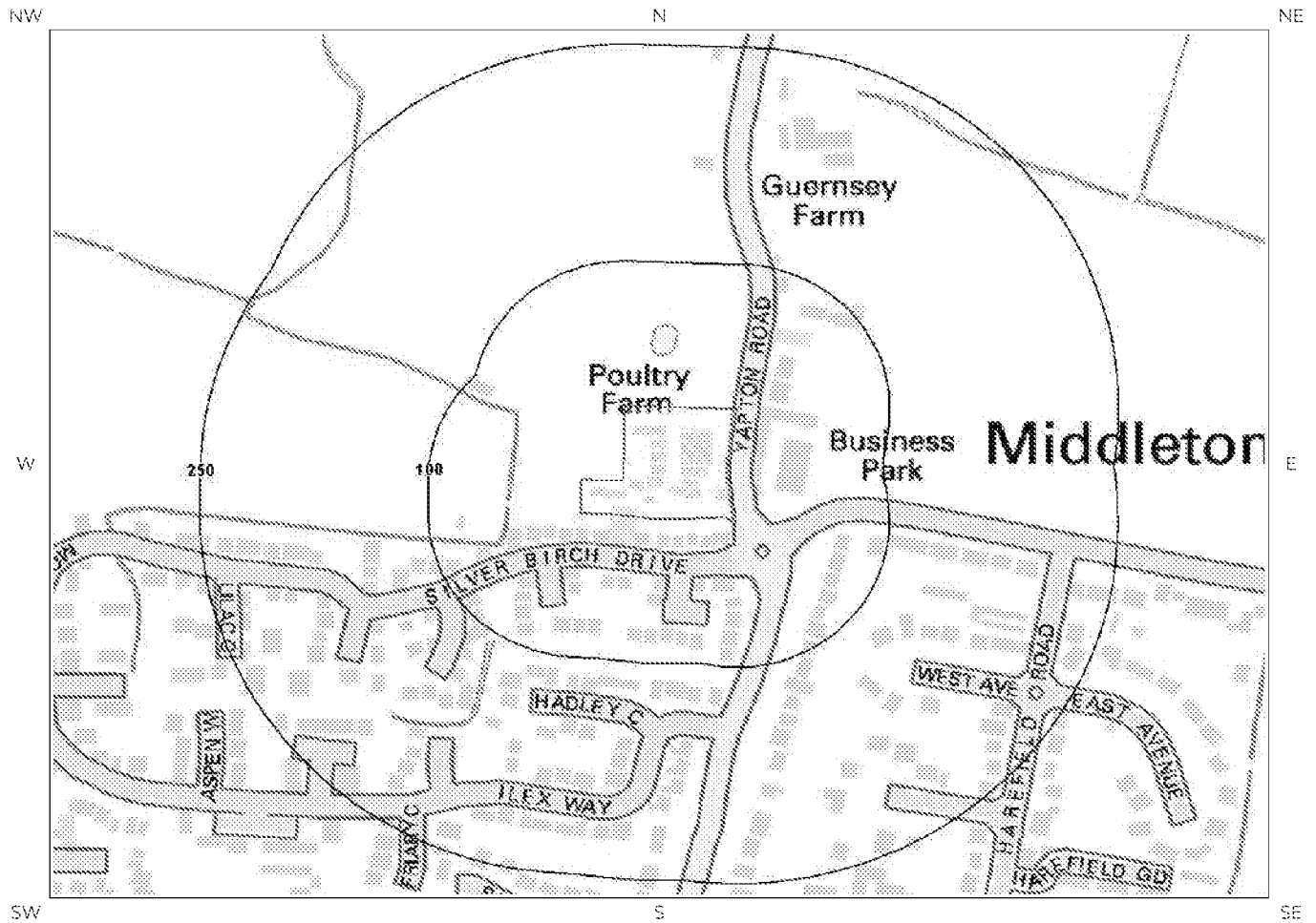
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Slight possibility for collapsible deposit problems after major changes in loading or groundwater conditions. Normal maintenance to avoid large amounts of water entering the ground through pipe leakage or soak-aways should reduce the likelihood of problems due to collapsible deposits. For new build, assess the possibility of collapsible (loessic) deposits in ground investigation. For existing property, no significant increase in insurance risk from collapsible deposits is likely.

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	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.

7 Borehole Records map



Borehole Records Legend

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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:

0

Database searched and no data found.

8 Estimated Background Soil Chemistry

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

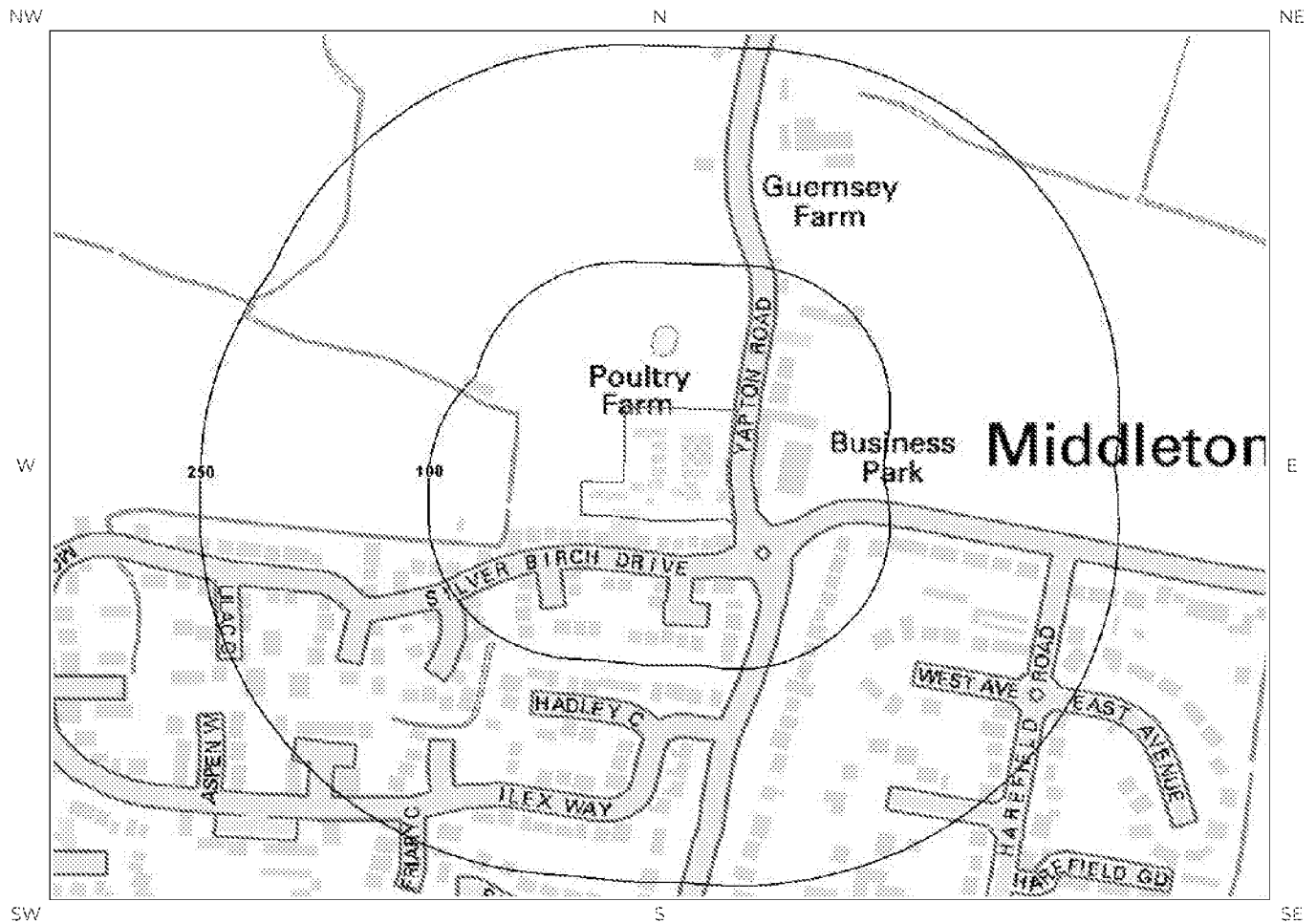
1

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	Sediment	<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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	Site Outline		Underground or Partially Underground Railway / Subway System		Railway Track (OpenStreetMap)
	Search Buffers (m)		Railway Tunnel (OS Mapping)		High Speed 2
	250		Abandoned or Dismantled Railway (OpenStreetMap)		High Speed 2 Revised Proposed Route
	500		Railway Track (OS Mapping)		Crossrail 1
			Railway and/or Tunnel Feature from Historical Mapping		

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

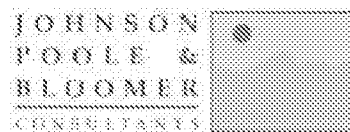
Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a **Groundsure HS2 and Crossrail 1 Report**.

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.

Contact Details

emapsite™



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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-feb11-2019>

APPENDIX 05

Site Photographs



Photo 1: Google Earth Image of the site with indicative site boundary

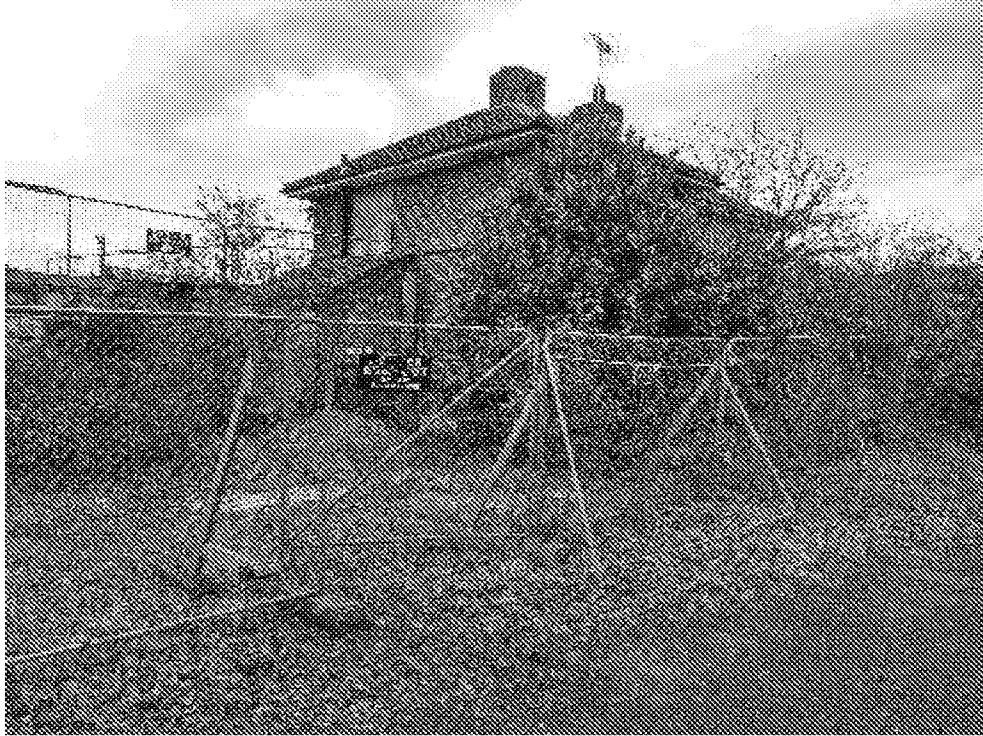


Photo 2: Former Farmhouse with MW01 in the foreground



Photo 3: Former Farmhouse



Photo 4: View east along footpath, with ditches to the north and south.



Photo 5: Ditch culvert



Photo 6: Proposed site access route

Notes:		 402.06594.00008	Client:	FRONTIER ESTATES LTD	
			Project:	YAPTON ROAD, MIDDLETON-ON-SEA	
			Date:	MARCH 2019	
			Drawing:	OBSERVATION PHOTOGRAPHS	1 of 4



Photo 7: View east from southwest of the site



Photo 8: Northeast section of the site, with adjacent residential properties beyond

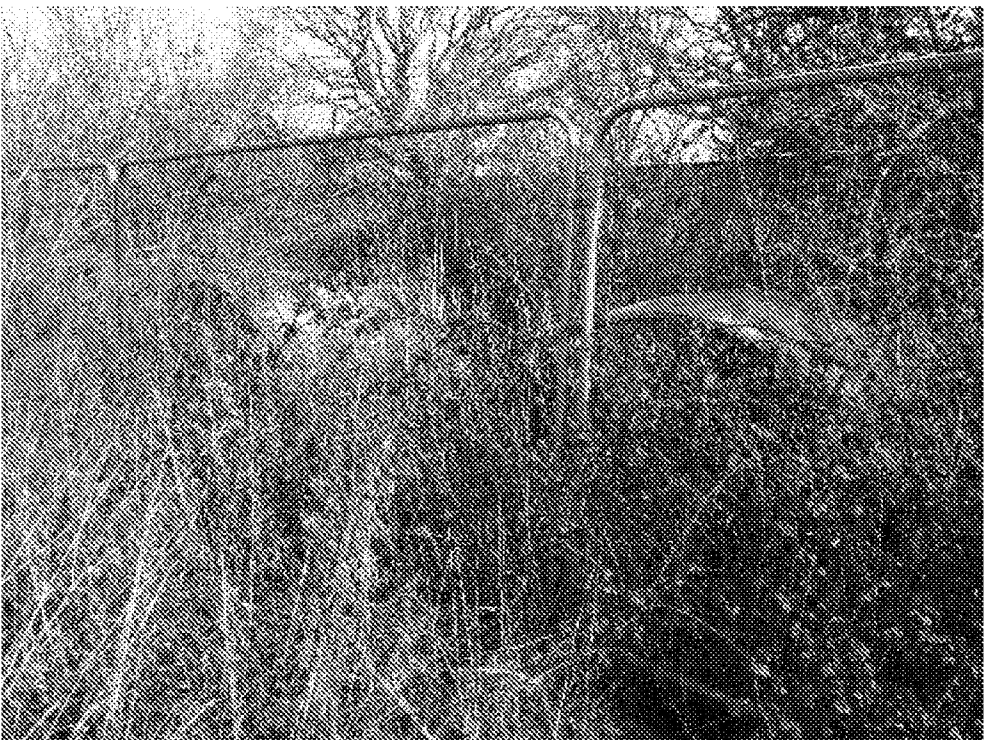


Photo 9: Small hen houses along the eastern boundary



Photo 10: View south to proposed access point

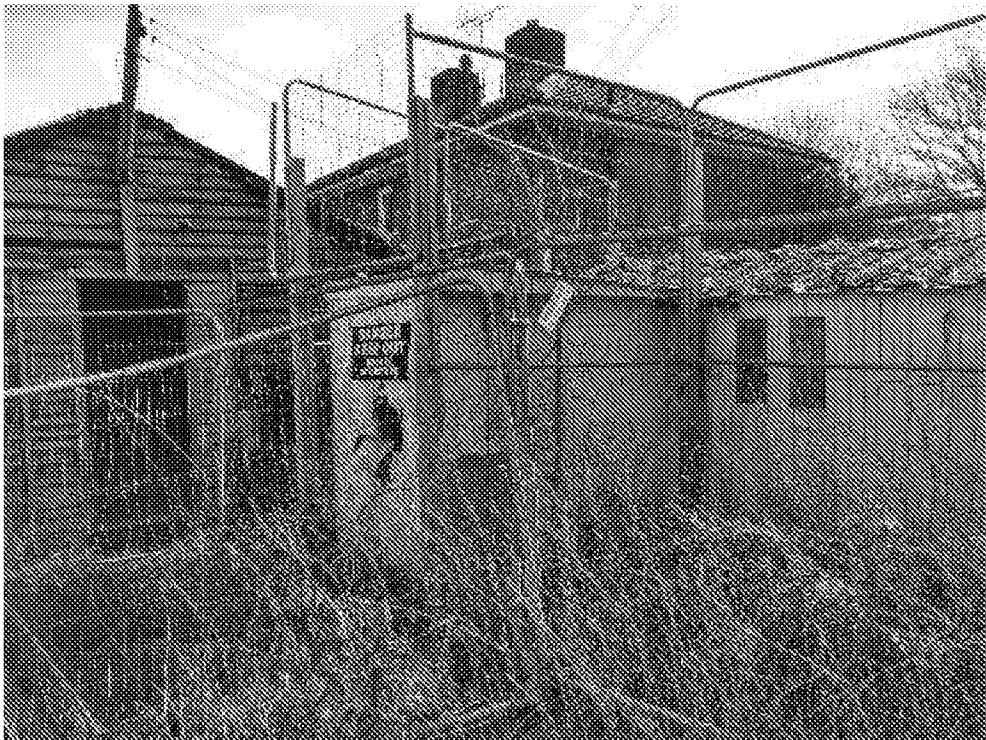


Photo 11: Cement clad (possibly containing asbestos) shed

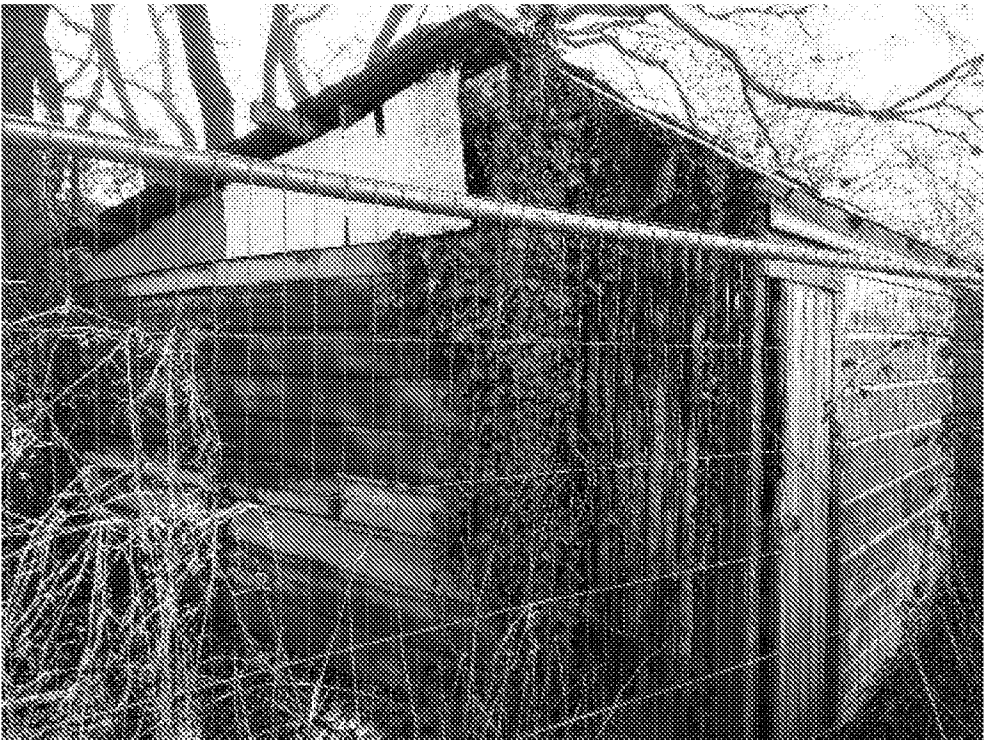


Photo 12: Typical large shed construction



Photo 13: Typical large shed construction



Photo 14: Typical large shed interior



Photo 15: Typical large shed interior



Photo 16: Typical large shed interior



Photo 17: Stockpile containing cement sheet (possibly containing asbestos)



Photo 18: Pile of tyres adjacent to the proposed site access



Photo 19: Mixed stockpile



Photo 20: Mixed stockpile



Photo 21: Stockpile containing cement sheet (possibly containing asbestos) and timber



Photo 22: Middleton Business Park



Photo 23: Residential properties to the south of the site



Photo 24: Open / Agricultural land to the north of the site (pond in mid-ground)

APPENDIX 06

SLR Approach to PLQRA

SLR APPROACH TO PLQRA – PLANNING

Regulatory Context

Background

The regime advocates a precautionary approach to dealing with contaminated land, there is clear direction to avoid the “*excessive cost burdens*” of “*wastefully expensive remediation*”.

The normal procedure for assessing land dictates that potential contaminant Sources, Pathways and Receptors should be considered within the context of potential contaminant linkages (PCL’s) and that an evaluation of the risks associated with each linkage should drive decisions regarding the status of the land as contaminated, unaffected by contamination or requiring further investigation.

Part 2A of the Environmental Protection Act 1990

Under Part 2A the starting point should be that land is not contaminated land unless there is reason to consider otherwise. Only land where unacceptable risks are clearly identified, after a risk assessment has been undertaken in accordance with the Statutory Guidance, should be considered as meeting the Part 2A definition of contaminated land.

Under Part 2A, risks should be considered only in relation to the current use of the land. “Current use” means:

1. The use which is being made of the land currently;
2. Reasonably likely future uses of the land that would not require a new or amended grant of planning permission;
3. Any temporary use to which the land is put, or is likely to be put, from time to time within the bounds of current planning permission; and
4. Likely informal use of the land, for example children playing on the land, whether authorised by the owners or occupiers, or not.

Sites subject to Detailed Inspection under Part 2A by Local Authorities should be classified as Categories 1 to 4. For clarity:

- ✦ Category 1: describes land which is clearly problematic;
- ✦ Categories 2 and 3: cover the less straightforward land where detailed consideration is needed before deciding whether it is Category 2 (contaminated land requiring remedial action) or Category 3 (not contaminated land) - wider socio-economic factors come into play if health risks assessment fails to produce a decision; and
- ✦ Category 4: describes land that is clearly not contaminated land.

The Category 4 test is particularly important in defining when land is clearly not contaminated land in the legal sense; it introduces the idea that it would be exceptional for land: exhibiting normal background levels of contamination; or contaminant levels below published assessment criteria (which have been augmented by Category 4 screening concentrations for a limited number of contaminants) to be considered as contaminated land.

Importantly, the 2012 guidance makes it clear that regulators can only require remediation to a point where land is no longer contaminated land in the legal sense (i.e. the boundary between Categories 2 and 3) and not require “*unnecessary*” clean up to attain Category 4 standards. This means some landowners / developers will choose a remedial end-point in Category 3 whilst others will still volunteer to clean-up to Category 4 (to deal with perception issues or to please funders, etc.).

Therefore exceedance of a generic risk based assessment criteria should simply trigger further risk assessment, rather than a requirement for remediation.

National Planning Policy Framework

This redevelopment project falls under the remit of the Planning Act and may be subject to both local and national planning policies.

The National Planning Policy Framework (NPPF) of February 2019 has a core aim to:

- ❖ encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value.
- ❖ The NPPF states the planning system should contribute to and enhance the natural and local environment by:
 - Clause 118c - giving substantial weight to the value of using sustainable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land; and
 - Clause 170b - preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and

Furthermore the NPPF says that planning policies and decisions should also ensure that:

- ❖ Clause 178a - a site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation; and that
- ❖ Clause 178b - after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990 (meaning Category 3 or 4).
- ❖ Clause 178c – adequate site investigation information, prepared by a competent person, is able to inform these assessments.

The national planning policy directs those involved in development to ensure sites are suitable for use and not be capable of being determined as contaminated land under Part 2A – which means that the category of land, post remediation (if required) should be considered.

Approach to Qualitative Risk Assessment

The qualitative risk assessment is underpinned by the Preliminary conceptual site model (CSM) which identifies the hazards (source of contamination) and sets out the potential pollutant linkages with a view to identifying the nature and magnitude of the potential risks to receptors.

This requires consideration of the probability or likelihood of the linkage occurring and the severity/significance of the potential consequence taking into account the nature of the pollutant linkage and the potential severity of the hazard coupled with the sensitivity of the receptor within the context of the current and/or envisaged land use.

A classification of: consequence/severity, probability/likelihood and risk together with definitions are presented in the various tables within this appendix.

The tables provide a logical and consistent framework for assessing the potential risk by defining the categories of consequence severity, probability/likelihood of occurrence and levels of risk also referred to as 'risk terms' which follows current best practice.

The first step is to establish the consequence/severity (Table 1) and probability/likelihood (Table 2) before combining/comparing them to establish the risk category or term (Table 3). The resultant risk class is defined in Table 4.

It is worth noting that the classification of the consequence (severity) does not take account of the probability (likelihood) of that consequence being realised. Hence a 'sever' consequence refers to acute (short term) risk and a 'medium' consequence refers to a chronic (long term) risk as would be the case of carcinogens and asbestos etc.

TABLE 1
CLASSIFICATION OF CONSEQUENCES

Classification	Definition
Severe	- Acute Risks to human health. - Short-term risk pollution of controlled waters or significant impact on controlled waters e.g. large scale pollution or very high levels of contamination equivalent to EA category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on operational effectiveness and/or amenity value or major damage to agriculture or commerce. - Catastrophic damage to buildings or property (e.g. explosion causing building collapse). - Ecological system effects – immediate risks of major damage which is likely to result in: irreversible substantial adverse changes in the functioning of the ecosystem or harm to a species of special interest that endangers the long-term maintenance of the population.
Medium	- Chronic risks to human health. - Pollution of sensitive water resources (e.g. leaching of contaminants into controlled waters) that is the equivalent of the EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to site operations, agriculture or commerce. - Ecological system effects – Immediate risks of significant damage which may result in substantial adverse changes to the ecosystem's functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. - Significant damage to buildings, structures and services (e.g. Damage rendering a building unsafe to occupy, such as foundation damage).
Mild	- Non-permanent health effects to human health (exposure unlikely to lead to 'significant' harm). - Pollution of controlled waters or non-sensitive water resources (e.g. Pollution of non-classified groundwater) that is equivalent to an EA Category 3 pollution incident or short lived effect on water quality; marginal effect on operational capability, amenity value, agriculture or commerce. - Minor damage to buildings, structures and services (e.g. Damage rendering a building unsafe to occupy, such as foundation damage). - Ecological systems effects – minor or short-term damage which is unlikely to result in substantial adverse changes to the ecosystem's functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. - Substantial damage to non-sensitive environments (unprotected ecosystems e.g. Crops).
Minor/Negligible	No measurable effects on human health including non-permanent health effects to human health that are easily prevented by appropriate use of PPE etc.

Classification	Definition
	- Minor pollution of controlled waters including non-sensitive water resources with no discernible effect on water quality or ecosystems. - Minor damage to non-sensitive environments (unprotected ecosystems e.g. Crops) - Easily repairable effects of damage to buildings, structures, services or the environment (e.g. Discoloration of concrete, loss of plants in a landscaping scheme).

TABLE 2
CLASSIFICATION OF PROBABILITY
(ONLY APPLIES IF THERE IS A POSSIBILITY OF A POLLUTANT LINKAGE BEING PRESENT)

Classification	Definition	Probability
High Likelihood	There is a pollutant linkage and an event is High Likelihood to occur in the short term, and is almost inevitable over the long term OR there is evidence of harm or pollution	>95% Likelihood of Consequence Occurring
Likely	There is a pollutant linkage and it is probable than an event will occur. It is not inevitable, but possible in the short term and likely over the long term	50-95% likelihood of Consequence Occurring.
Low Likelihood	There is a pollutant linkage and circumstances are possible under which an event could occur. It is by no means certain that even over a longer period such an event would take place, and less likely in the short term	5 – 49% Likelihood of Consequence Occurring
Unlikely	There is a pollutant linkage and it is improbable that an event would occur even in the very long term	5% Likelihood of Consequence Occurring

TABLE 3
CLASSIFICATION OF RISK (SIGNIFICANCE)

Probability (Likelihood)	Consequence				
		Severe	Medium	Mild	Minor
	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low
	Likely	High Risk	Moderate Risk	Moderate/Low	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low	Low Risk	Negligible Risk
	Unlikely	Moderate/Low	Low Risk	Negligible Risk	Negligible Risk

TABLE 4
DEFINITIONS OF CLASSIFIED RISKS/RISK TERMS

Classification	Definition
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation is likely to be required.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not already undertaken) is required and remedial works may be necessary in the short term and are likely over the long term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Moderate/Low Risk	Possible that harm could arise to a receptor, but where a combination of likelihood and consequence results in a risk that is above low, but is not of sufficient concern to be classified as mild. It can be driven by cases where there is an acute risk which carries a severe consequence, but where the exposure is unlikely. Such harm would at worst normally be mild. Limited further investigation may be required to clarify the risk and liability. If necessary remediation works likely to be limited in extent.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Negligible Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.
No Potential Risk	There is no potential risk where no pollutant linkage has been established. No liability.

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