

Delta-Simons

UNIT 3 DELTA SIMONS LTD, HENLEY WAY, LINCOLN, LN6 3QR

GroundSure

GS-1787060

Reference:

Your Reference:

DS23039

Report Date

26 Nov 2014

Report Delivery

Method:

Email - pdf

#### **GroundSure Envirolnsight**

Address:

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Enviroinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

Managing Director Groundsure Limited

Enc.

GroundSure Envirolnsight



# **GroundSure EnviroInsight**

Address:

Date: 26 Nov 2014

Reference: GS-1787060

Client: Delta-Simons

NW NE



SW

Aerial Photograph Capture date: 20-Apr-2013 Grid Reference: 550802,185269

Site Size: 11.40ha

SE

### **Contents Page**

Contents Page	3
Overview of Findings	5
Using this report	9
1. Environmental Permits, Incidents and Registers Map	10
1. Environmental Permits, Incidents and Registers	11
1.1 Industrial Sites Holding Licences and/or Authorisations	
1.1.1 Records of historic IPC Authorisations within 500m of the study site:	
1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:	
1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:	
1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:	
1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:	
1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:	
1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:	
1.1.9 Records of Licensed Discharge Consents within 500m of the study site:	
1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:	
1.3 Environment Agency Recorded Pollution Incidents	
1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:	
1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:	
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	17
2. Landfill and Other Waste Sites Map	18
2. Landfill and Other Waste Sites	19
2.1 Landfill Sites	19
2.1.1 Records from Environment Agency landfill data within 1000m of the study site:	19
2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:	
2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:	
2.1.4 Records of Local Authority landfill sites within 1500m of the study site:  2.2 Other Waste Sites	
2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:	
2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:	
3. Current Land Use Map	24
3. Current Land Uses	25
3.1 Current Industrial Data	25
3.2 Petrol and Fuel Sites	
3.3 Underground High Pressure Oil and Gas Pipelines	26
4. Geology	27
4.1 Artificial Ground and Made Ground	
4.2 Superficial Ground and Drift Geology	
4.3 Bedrock and Solid Geology	27
5. Hydrogeology and Hydrology	28
5a. Aquifer Within Superficial Geology	28
5b. Aquifer Within Bedrock Geology and Abstraction Licenses	29
5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses	30
5d. Hydrology Source Protection Zones within confined aquifer	
5 e. Hydrology – Detailed River Network and River Quality	32
5. Hydrogeology and Hydrology	
5.1 Aquifer within Superficial Deposits	
5.2 Aquifer within Bedrock Deposits	

5.3 Groundwater Abstraction Licences	
5.4 Surface Water Abstraction Licences	
5.5 Potable Water Abstraction Licences	
5.6 Source Protection Zones	
5.7 Source Protection Zones within Confined Aquifer	
5.8 Groundwater Vulnerability and Soil Leaching Potential	
5.9 River Quality	
5.9.1 Biological Quality:	
5.10 Detailed River Network	
5.11 Surface Water Features	
6. Environment Agency Flood Map for planning (from rivers and the sea)	
6. Flooding	
6.1 Zone 2 Flooding	
6.2 Zone 3 Flooding	
6.3 Flood Defences	
6.4 Areas benefiting from Flood Defences	
6.5 Areas benefiting from Flood Storage	
6.6 Groundwater Flooding Susceptibility Areas	
6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?	
6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?	
6.7 Groundwater Flooding Confidence Areas	44
7. Designated Environmentally Sensitive Sites Map	45
7. Designated Environmentally Sensitive Sites	46
7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:	46
7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:	
7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:	
7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:	46
7.5 Records of Ramsar sites within 2000m of the study site:	
7.6 Records of Ancient Woodland within 2000m of the study site:	
7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:	
7.8 Records of World Heritage Sites within 2000m of the study site:	
7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:	
7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:	
7.11 Records of National Parks (NP) within 2000m of the study site:	
7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:	
7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:	
8. Natural Hazards Findings	49
8.1 Detailed BGS GeoSure Data	49
8.1.1 Shrink Swell	49
8.1.2 Landslides	49
8.1.3 Soluble Rocks	50
8.1.4 Compressible Ground	50
8.1.5 Collapsible Rocks	50
8.1.6 Running Sand	51
9. Mining	
9.1 Coal Mining	
9.2 Shallow Mining	
9.3 Brine Affected Areas	52
Contact Details	53
Standard Terms and Conditions	54

### **Overview of Findings**

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

Section 1: Environmental Permits, Incidents and Registers	On-sit	e	0-50m	51-25	0 2	51-500
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations						
1.1.1 Records of historic IPC Authorisations	0		0	19		0
1.1.2 Records of Part A(1) and IPPC Authorised Activities	0		0	0		0
1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0		0	0		0
1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0		0	0		0
1.1.5 Records of List 1 Dangerous Substances Inventory sites	0		0	0		0
1.1.6 Records of List 2 Dangerous Substances Inventory sites	0		0	0		0
1.1.7 Records of Part A(2) and Part B Activities and Enforcements	0		0	4		1
1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations	0		0	6		0
1.1.9 Records of Licensed Discharge Consents	0		0	0		1
1.1.10 Records of Planning Hazardous Substance Consents and Enforcements	0		0	0		0
1.2 Records of COMAH and NIHHS sites	0		0	0		0
1.3 Environment Agency Recorded Pollution Incidents						
1.3.1 National Incidents Recording System, List 2	2		1	0		4
1.3.2 National Incidents Recording System, List 1	0		0	0		0
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0		1	0		0
Section 2: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 5000
2.1 Landfill Sites						
2.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	1	Not searched
2.1.2 Environment Agency Historic Landfill Sites	0	2	1	0	5	3
2.1.3 BGS/DoE Landfill Site Survey	0	0	1	0	1	0
2.1.4 GroundSure Local Authority Landfill Sites Data	0	0	0	0	2	0
2.2 Landfill and Other Waste Sites Findings						
2.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	2	Not searched	Not searched
2.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	2	5

Section 3: Current Land Use	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	7	2	3	Not searched
3.2 Records of Petrol and Fuel Sites	0	0	0	1
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

Section 4: Geology	
4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	Yes
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 5: Hydrogeology and Hydrology	0-500m					
5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
5.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?			Υ	es		
	On-site	0-50m	51-250	251-500	501-1000	1000- 2000
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	2	2	8	0	2	0
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	2	0
5.6 Source Protection Zones (within 500m of the study site)	0	1	0	0	Not searched	Not searched
5.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
5.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	1	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000- 1500
5.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
5.10 Detailed River Network entries within 500m of the site	0	4	6	2	Not searched	Not searched
5.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 6: Flooding	
6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	Yes
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	Yes
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

Section 7: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	0	0
7.7 Records of Local Nature Reserves (LNR)	0	1	2	2	5	3
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	0	0	0	0	1	0

#### Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	Moderate
8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Moderate
8.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Moderate
8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
8.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
Section O. Mining	

#### Section 9: Mining

9.1 Are there a	ny coal mining areas v	vithin 75m of the study site?	No
9.1 Are there a	ny coal mining areas \	vithin /5m of the study site?	N

9.2 What is the risk of subsidence relating to shallow mining within
150m of the study site?

Negligible

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

### 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. 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.

#### 2. 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.

#### 3. 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 underground oil and gas pipelines.

#### 4. Geology

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

#### 5. Hydrogeology and Hydrology

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

#### 6. Flooding

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

#### 7. 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.

#### 8. 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.

#### 9. Mining

Provides information on areas of coal and shallow mining.

#### 10. 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**

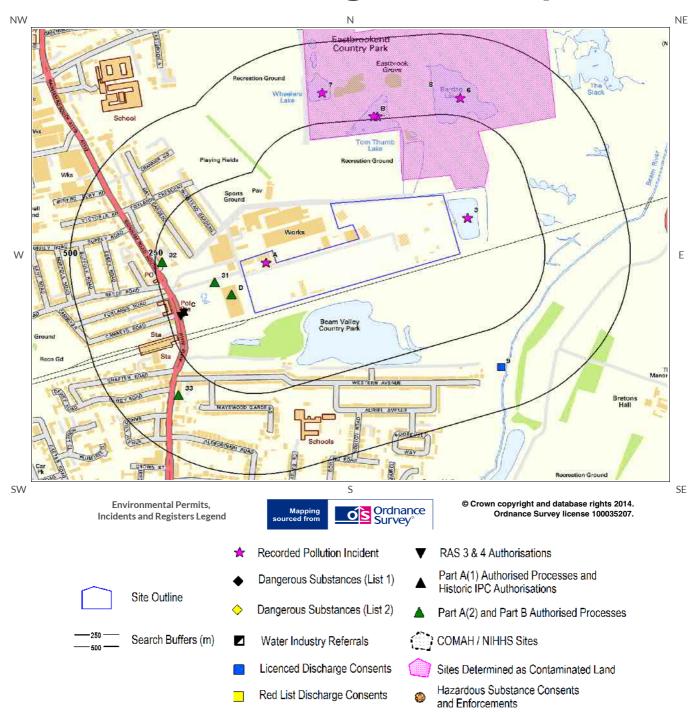
Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -ld: 1, ld: 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. Environmental Permits, Incidents and Registers Map







## 1. Environmental Permits, Incidents and Registers

#### 1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

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

19

The following IPC Authorisations are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	De	etails
40C	201.0	W	550310 185110	Operator: Aventis Pharma Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AM4908 Original Permit Number: IPCAIRAPP Date Approved: 24-6-1994 Effective Date: 24-6-1994 Status: Superseded By Variation
41C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AM0694 Original Permit Number: IPCAIRAPP Date Approved: 6-6-1994 Effective Date: 7-6-1994 Status: Superseded By Variation
42C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AP2278 Original Permit Number: IPCMINVAR Date Approved: 21-12-1994 Effective Date: 3-1-1995 Status: Superseded By Variation
43C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AU3138 Original Permit Number: IPCMINVAR Date Approved: 4-7-1996 Effective Date: 15-7-1996 Status: Superseded By Variation
44C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AP2294 Original Permit Number: IPCMINVAR Date Approved: 13-3-1995 Effective Date: 24-3-1995 Status: Superseded By Variation
45C	201.0	W	550310 185110	Operator: Rhodia Organique Fine Ltd Address: Rhodia Life Science Chemicals, Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: BH2766 Original Permit Number: IPCAPP Date Approved: 3-4-2000 Effective Date: 3-4-2000 Status: Revoked
46C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: BD9009 Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked
47C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AP2243 Original Permit Number: IPCMINVAR Date Approved: 21-12-1994 Effective Date: 3-1-1995 Status: Superseded By Variation



ID	Distance	Direction	NGR		Details
48C	201.0	W	550310 185110	Operator: Aventis Pharma Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AS6284 Original Permit Number: IPCMAJVAR Date Approved: 10-1-1996 Effective Date: 1-2-1996 Status: Superseded By Variation
49C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AL4279 Original Permit Number: IPCAPP Date Approved: 6-6-1994 Effective Date: 12-6-1994 Status: Superseded By Variation
50C	201.0	W	550310 185110	Operator: Aventis Pharma Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AR5154 Original Permit Number: IPCMAJVAR Date Approved: 15-2-1996 Effective Date: 1-3-1996 Status: Superseded By Variation
51C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: BD0427 Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked
52C	201.0	W	550310 185110	Operator: Aventis Pharma Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: BD1539 Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
53C	201.0	W	550310 185110	Operator: Aventis Pharma Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AP1611 Original Permit Number: IPCMAJVAR Date Approved: 24-2-1995 Effective Date: 17-3-1995 Status: Superseded By Variation
54C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AY2575 Original Permit Number: IPCMAJVAR Date Approved: 23-5-1997 Effective Date: 27-5-1997 Status: Superseded By Variation
55C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: BD3817 Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked
56C	201.0	W	550310 185110	Operator: Aventis Pharma Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: BG0024 Original Permit Number: IPCMINVAR Date Approved: 29-6-1999 Effective Date: 1-7-1999 Status: Revoked
57C	201.0	W	550310 185110	Operator: Rhone Poulenc Rorer Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AM0686 Original Permit Number: IPCAIRAPP Date Approved: 6-6-1994 Effective Date: 7-6-1994 Status: Superseded By Variation
58C	201.0	W	550310 185110	Operator: Aventis Pharma Ltd Address: Rainham Road South, Dagenham, Essex, RM10 7XS Process: Manufacture And Use Of Organic Chemicals	Permit Number: AP2235 Original Permit Number: IPCMINVAR Date Approved: 21-12-1994 Effective Date: 3-1-1995 Status: Superseded By Variation

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

0

Database searched and no data found.



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

`

Database searched and no data found.

1.1.4 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.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

5

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

ID	ID Distance		on NGR	Details			
29D	53.0	W	550449 185163	Address: Building D63a, Aventis Pharma, Rainham Road South, Dagenham, Essex, RM10 7XB Process: Chemical Process Status: Historical Permit Permit Type: Part A	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified		
30D	53.0	W	550449 185163	Address: Building D63a, Aventis Pharma, Rainham Road South, Dagenham, Essex, RM10 7XB Process: Formulation and Finishing of Pharmaceutical Products Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified		



ID	Distance	Direction	NGR	De	etails
31	90.0	W	550400 185200	Address: Rhone Poulenc, Rainham Rd Sth, RM10 7XS Process: Coating & Enamelling Process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
32	230.0	W	550245 185263	Address: Leyla's Dry Cleaners Ltd, 582 Rainham Road South, Dagenham, Essex, RM10 7XD Process: Dry Cleaners Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
33	342.0	SW	550294 184850	Address: Hot Pants, 8 Beadles Parade, Rainham Road South, Dagenham, Essex, RM10 8YL Process: Dry Cleaners Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

6

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

ID	Distance	Direction	NGR	Address	Operator	Туре	Permission Number	Dates	Status
59C	201.0	W	5503 10 1851 10	Argenta Discovery Ltd, C/o Aventis, Rainham Road South, Dagenham, London, RM10 7XS	Argenta Discovery Ltd	Accumulation Of Radioactive Waste (was Rsa60 Section 7).	BI8590	Date of Approval:27/7 /2000 Effective from:1/8/2000 Last date of update:2014- 10-01	Revoked/cance lled
60C	213.0	W	5503 00 1851 00	Aventis Pharma Ltd, Rainham Road South, Dagenham, Essex, RM10 7XS	Aventis Pharma Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BJ2733	Date of Approval:6/10 /2000 Effective from:6/11/200 0 Last date of update:2014- 10-01	Superseded By Variation
61C	213.0	W	5503 00 1851 00	Rhone Poulenc Rorer Ltd, Rainham Road South, Dagenham, Essex, RM10 7XS	Rhone Poulenc Rorer Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AB6292	Date of Approval:9/12 /1992 Effective from:9/12/199 2 Last date of update:2014- 10-01	Superseded By Variation
62C	213.0	W	5503 00 1851 00	Aventis Pharma Ltd, Rainham Road South, Dagenham, Essex, RM10 7XS	Aventis Pharma Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	BJ2725	Date of Approval:6/10 /2000 Effective from:6/10/200 0 Last date of update:2014- 10-01	Revoked/cance lled



ID	Distance	Direction	NGR	Address	Operator	Туре	Permission Number	Dates	Status
63C	213.0	w	5503 00 1851 00	Rhone Poulenc Rorer Ltd, Rainham Road South, Dagenham, Essex, RM10 7XS	Rhone Poulenc Rorer Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AB6292	Date of Approval:17/4 /1997 Effective from:18/4/199 7 Last date of update:2014- 10-01	Revoked/cance lled
64C	213.0	W	5503 00 1851 00	Aventis Pharma Ltd, Rainham Road South, Dagenham, Essex, RM10 7XS	Aventis Pharma Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BJ2733	Date of Approval:1/12 /2003 Effective from:1/1/2004 Last date of update:2014- 10-01	Revoked/cance lled

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

1

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

ID	Distance	Direction	NGR	Details				
9	371.0	S	551240 184940	Address: Rhone Poulenc Rorer Ltd Site, Rainh, Rhone Poulenc Rorer Ltd Site, Ra, Inham Road South, Dagenham, Esse, X Effluent Type: Trade Discharges - Site Drainage Permit Number: CNTM.0029 Permit Version: 1	Receiving Water: River Beam Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 20/1/1992 Effective Date: 20/1/1992 Revocation Date: 3/7/2009			

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

0

Database searched and no data found.

#### 1.2 Dangerous or Hazardous Sites

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

0

Database searched and no data found.



#### 1.3 Environment Agency Recorded Pollution Incidents

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

7

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

ID	Distance	Direction	NGR	С	Details
1A	0.0	On Site	550550 185265	Incident Date: 30/03/2002 Incident Identification: 67855 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
2A	0.0	On Site	550550 185265	Incident Date: 30/03/2002 Incident Identification: 67855 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
3	50.0	E	551141 185403	Incident Date: 08/07/2002 Incident Identification: 89909 Pollutant: Other Pollutant Pollutant Description: Microbiological	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4B	259.0	N	550866 185717	Incident Date: 08/06/2003 Incident Identification: 164151 Pollutant: Other Pollutant Pollutant Description: Microbiological	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5B	259.0	N	550876 185718	Incident Date: 23/08/2003 Incident Identification: 184557 Pollutant: Other Pollutant Pollutant Description: Microbiological	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6	306.0	N	551119 185775	Incident Date: 28/03/2003 Incident Identification: 146707 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
7	345.0	N	550715 185791	Incident Date: 21/08/2002 Incident Identification: 102058 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

1.3.	2 R	ecords of	National	Incidents	Recording S	System, List	1 within	500m of	the stud	y site:
------	-----	-----------	----------	-----------	-------------	--------------	----------	---------	----------	---------

0

Database searched and no data found.



#### 1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

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

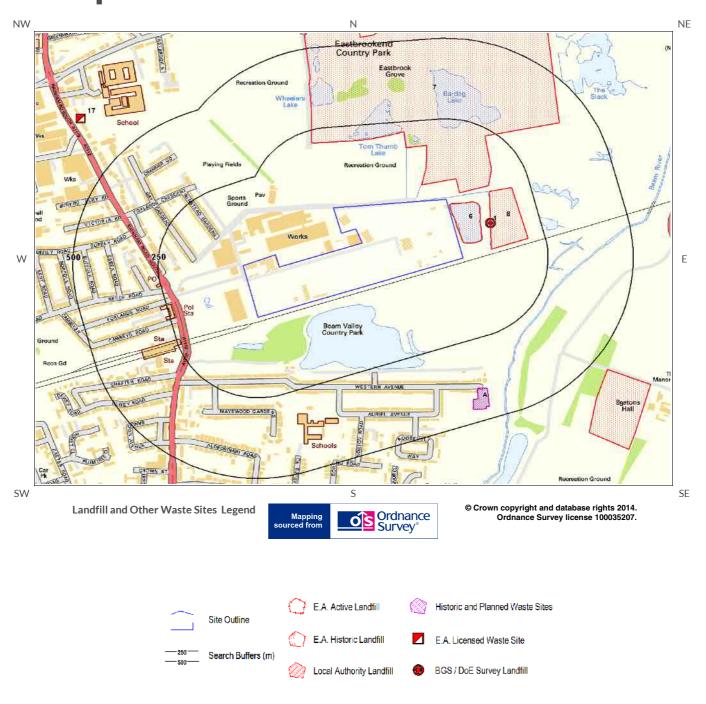
1

The following records are represented as polygons on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Description	Location	Category	Year Identified
8	44.0	NE	551037 185840	Former landfill	Eastbookend Country Oark, Dagenham Road, Dagenham	Potentially Contaminated Land	N/A



### 2. Landfill and Other Waste Sites Map







### 2. Landfill and Other Waste Sites

#### 2.1 Landfill Sites

2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

1

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

ID	Distance (m)	Direction	NGR	Details		
Not shown	996.0	S	551000 183700	Address: Ebbcliffe Ltd, Mardyke Farm, South Dagenham Road, South Hornchurch, Dagenham, Essex, RM13 7RS Landfill Reference: 80124.0 Environmental Permitting Regulations (Waste) Reference: EBB001 Landfill Type: A5: Landfill taking Non-Biodegradeable Wastes	Operator: Ebbcliffe Ltd Status: Modified IPPC Reference: EPR Reference:	

2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

11

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	
6	5.0	E	551200 185400	Site Address: Rainham Road South, Rainham Road, Dagenham, Essex Waste Licence: Yes Site Reference: DL200, 8BD007, DL219 Waste Type: Commercial, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 11-Apr-1985 Licence Surrendered: 26-Aug-1993 Licence Hold Address: - Operator: May and Baker Limited
7	44.0	NE	551000 185800	Site Address: Eastbrookend Country Park, Eastbrookend Waste Licence: Yes Site Reference: DL362, 8BD006, DL369 Waste Type: Inert, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 05-Dec-1991 Licence Surrendered: 04-Dec-1993 Licence Hold Address: - Operator: -
8	88.0	Е	551200 185400	Site Address: Rainham Road South, Rainham Road, Dagenham, Essex Waste Licence: Yes Site Reference: DL200, 8BD007, DL219 Waste Type: Commercial, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 11-Apr-1985 Licence Surrendered: 26-Aug-1993 Licence Hold Address: - Operator: May and Baker Limited



ID	Distance (m)	Direction	NGR	Details	
9	547.0	SE	551500 184800	Site Address: Bretons Farm, Daggenham, Havering, London Waste Licence: - Site Reference: 8HV054, HAV022 Waste Type: Inert, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	614.0	N	550600 186300	Site Address: Eastbrook Farm, Dagenham Road, Dagenham, Essex Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Ready Mixed Concrete Limited
Not shown	615.0	N	550600 186400	Site Address: Eastbrookend Country Park, Eastbrookend Waste Licence: Yes Site Reference: 8BD006, DL362 Waste Type: Inert, Commercial, Household, Special, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 05-Dec-1991 Licence Surrendered: 04-Dec-1993 Licence Hold Address: - Operator: -
Not shown	856.0	N	551300 186300	Site Address: Eastbrookend Cemetery, Eastbrookend Waste Licence: Yes Site Reference: DL275, 8BD001 Waste Type: Inert, Industrial, Commercial, Household, Special, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 03-Mar-1988 Licence Surrendered: 08-Nov-1989 Licence Hold Address: - Operator: -
Not shown	917.0	E	552000 185700	Site Address: Costain Land, Upper Rainham Road, Hornchurch Waste Licence: - Site Reference: 8HV037 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	1003.0	NE	551800 186100	Site Address: Rainham Road Depot - Cardrome, Rainham Road Waste Licence: - Site Reference: 8HV039 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	1058.0	NE	551600 186500	Site Address: Rainham Road Depot - Cardrome, The Chase, Upper Rainham Road Waste Licence: - Site Reference: 8HV039 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	1141.0	NE	552000 186100	Site Address: Western End of Harrow Lodge, Upper Rainham Road, Hornchurch Waste Licence: - Site Reference: 8HV038 Waste Type: Inert, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -



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

2

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

ID	Distance (m)	Direction	NGR	Details		
1	106.0	E	55120 0.0 18540 0.0	Address: May & Baker Ltd, Rainham Rd.Sth, Dagenham, Essex BGS Number: 2493.0	Risk: No risk to aquifer Waste Type: N/A	
Not shown	854.0	N	55070 0.0 18630 0.0	Address: Eastbrook Farm, Dagenham Rd, Dagenham, Essex BGS Number: 1628.0	Risk: No risk to aquifer Waste Type: N/A	

#### 2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

2

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

ID	Distance (m)	Direction	NGR Site Address	Source	Data Type
Not	971.0	Е	Refuse Tip	1962 mapping	Polygon
Not show	971.0	E	Refuse Tip	1963 mapping	Polygon

#### 2.2 Other Waste Sites

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

2

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

ID	Distance (m)	Direction	NGR			Details	
4A	399.0	S	551174 184854	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1990	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon	
5A	399.0	S	551174 184854	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1990	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon	



#### 2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

7

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

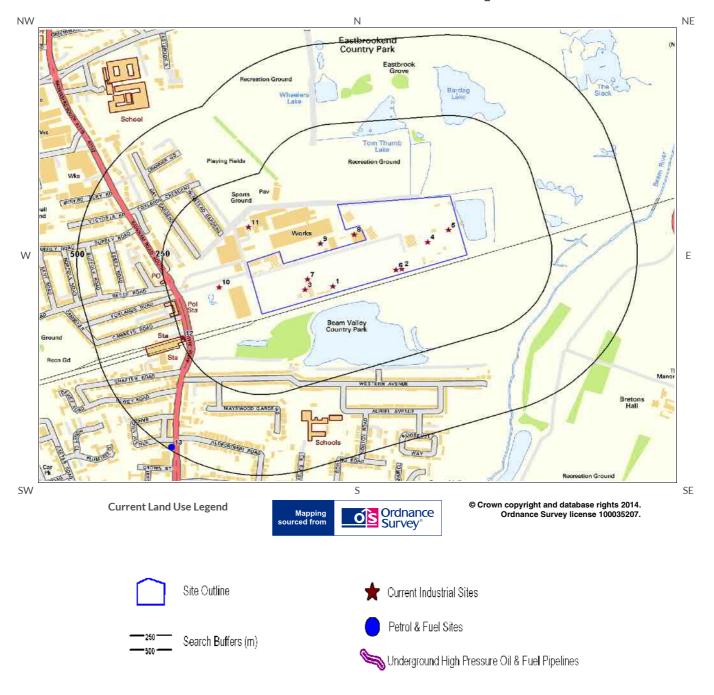
ID	Distance (m)	Direction	NGR	De	tails
17	661.0	NW	549997 185725	Site Address: 250, Rainham Road South, Dagenham, Essex, RM10 7UU Type: Metal Recycling Site <25000 tps Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: AJP009 EPR reference: EA/EPR/CB3531RF/A001 Operator: A & J Plumbing & Heating London Ltd Waste Management licence No: 103439 Annual Tonnage: 24999.0	Issue Date: 19/07/2012 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: A & J Plumbing & Heating London Ltd Correspondence Address: -, -
Not shown	955.0	S	550980 184250	Site Address: E Baker (Hauliers) Ltd, York Road, Rainham, Essex, RM13 7SX Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KIL001 EPR reference: EA/EPR/GP3797NZ/S003 Operator: Kilnbridge Construction Ltd Waste Management licence No: 80510 Annual Tonnage: 160125.0	Issue Date: 03/07/1990 Effective Date: 15/04/2000 Modified: - Surrendered Date: 24/12/2004 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Kilnbridge Construction - Rainham Road Correspondence Address: -, -
Not shown	1001.0	S	550982 184203	Site Address: York Road, Rainham, Essex, RM13 7SS Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KIL003 EPR reference: - Operator: Kilnbridge Construction Services Limited Waste Management licence No: 80625 Annual Tonnage: 0.0	Issue Date: 24/06/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Kilnbridge Waste Management Correspondence Address: -, Mcdermott House, Cody Road Business Centre, South Cresent, London, E16 4TL
Not shown	1001.0	S	550982 184203	Site Address: Land At, York Road, Rainham, Essex, RM13 7SS Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KIL003 EPR reference: EA/EPR/VP3697NS/V003 Operator: Kilnbridge Construction Services Ltd Waste Management licence No: 80625 Annual Tonnage: 100310.0	Issue Date: 24/06/2004 Effective Date: - Modified: 24/08/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Kilnbridge Construction Services Ltd Correspondence Address: -, -
Not shown	1487.0	S	551000 183700	Site Address: Ebbcliffe Ltd, Mardyke Farm, South Dagenham Road, Dagenham, Essex, RM13 75R Type: Landfill taking Non-Biodegradeable Wastes Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: EBB001 EPR reference: - Operator: Ebbcliff Ltd Waste Management licence No: 80124 Annual Tonnage: 0.0	Issue Date: 25/09/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: "Mardyke Farm, Dagenham" Correspondence Address: Ebbcliffe Limited, 13, Radnor Walk, Chelsea, London, SW3 4BP



ID	Distance (m)	Direction	NGR	De	etails
Not shown	1487.0	S	551000 183700	Site Address: Ebbcliffe Ltd, Mardyke Farm, South Dagenham Road, South Hornchurch, Dagenham, Essex, RM13 7RS Type: Physical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: EBB001 EPR reference: QP3196NT/V002 Operator: Ebbcliffe Ltd Waste Management licence No: 80124 Annual Tonnage: 452176.0	Issue Date: 25/09/1996 Effective Date: - Modified: 14/03/2003 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure Site Name: Mardyke Farm, Dagenham Correspondence Address: -, -
Not shown	1487.0	S	551000 183700	Site Address: Ebbcliffe Ltd, Mardyke Farm, South Dagenham Road, South Hornchurch, Dagenham, Essex, RM13 7RS Type: Landfill taking Non-Biodegradeable Wastes Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: EBB001 EPR reference: EA/EPR/QP3196NT/V003 Operator: Ebbcliffe Ltd Waste Management licence No: 80124 Annual Tonnage: 692250.0	Issue Date: 25/09/1996 Effective Date: - Modified: 15/07/2010 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Mardyke Farm Correspondence Address: -, -



### 3. Current Land Use Map







### 3. Current Land Uses

#### 3.1 Current Industrial Data

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

12

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0.0	On Site	Tanks	550726 185194	RM7	Tanks (Generic)	Industrial Features
2	0.0	On Site	Gas Transmissio n Station	550928 185248	RM7	Gas Features	Infrastructure and Facilities
3	0.0	On Site	Tanks	550645 185183	RM7	Tanks (Generic)	Industrial Features
4	0.0	On Site	Works	551004 185331	RM7	Unspecified Works Or Factories	Industrial Features
5	0.0	On Site	Tanks	551066 185368	RM7	Tanks (Generic)	Industrial Features
6	0.0	On Site	Gas Transmissio n Station	550911 185244	RM7	Gas Features	Infrastructure and Facilities
7	0.0	On Site	Tank	550652 185215	RM7	Tanks (Generic)	Industrial Features
8	22.0	S	Works	550789 185354	RM7	Unspecified Works Or Factories	Industrial Features
9	28.0	N	Tank	550689 185326	RM7	Tanks (Generic)	Industrial Features
10	99.0	W	Works	550393 185191	RM7	Unspecified Works Or Factories	Industrial Features
11	102.0	N	Electricity Sub Station	550479 185377	RM7	Electrical Features	Infrastructure and Facilities
12	247.0	W	Dagenham East	550284 185032	Dagenham East Station, Rainham Road South, Dagenham, RM10 8AA	Underground Network Stations	Public Transport, Stations and Infrastructure



#### 3.2 Petrol and Fuel Sites

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

1

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

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
13	491.0	SW	550253 184695	BP	Park Coronet Service Station, 699, Rainham Road South, Rainham Road South, Sandown Ave, Dagenham, Essex, RM10 8XB	No	Open

#### 3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site:

0

Database searched and no data found.





### 4. Geology

#### 4.1 Artificial Ground and Made Ground

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

Lex Code	Description	Rock Type	
WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID	
WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID	
WMGR-MGRD	INFILLED GROUND	ARTIFICIAL DEPOSIT	

#### 4.2 Superficial Ground and Drift Geology

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

Lex Code	Description	Rock Type		
HAGR-SAGR	HACKNEY GRAVEL MEMBER	SAND AND GRAVEL		
TPGR-SAGR	TAPLOW GRAVEL FORMATION	SAND AND GRAVEL		

#### 4.3 Bedrock and Solid Geology

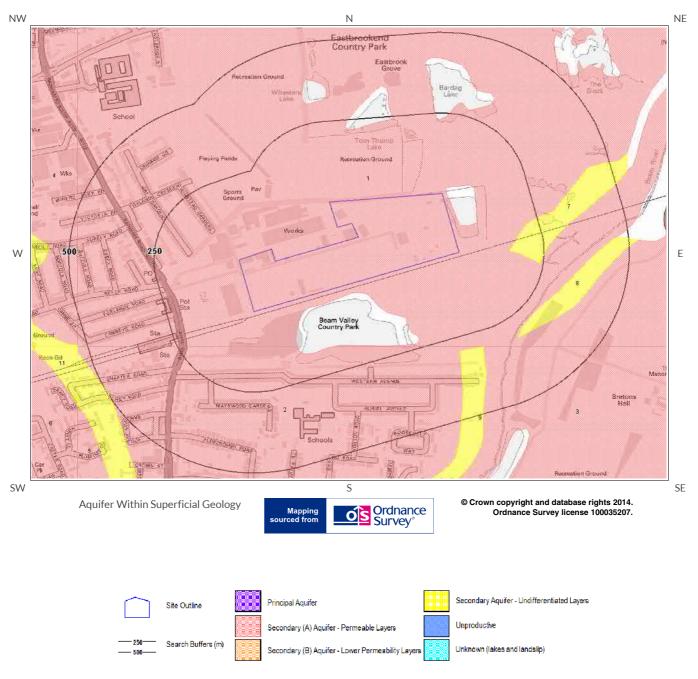
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LC-CLSS	LONDON CLAY FORMATION	CLAY, SILT AND SAND

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

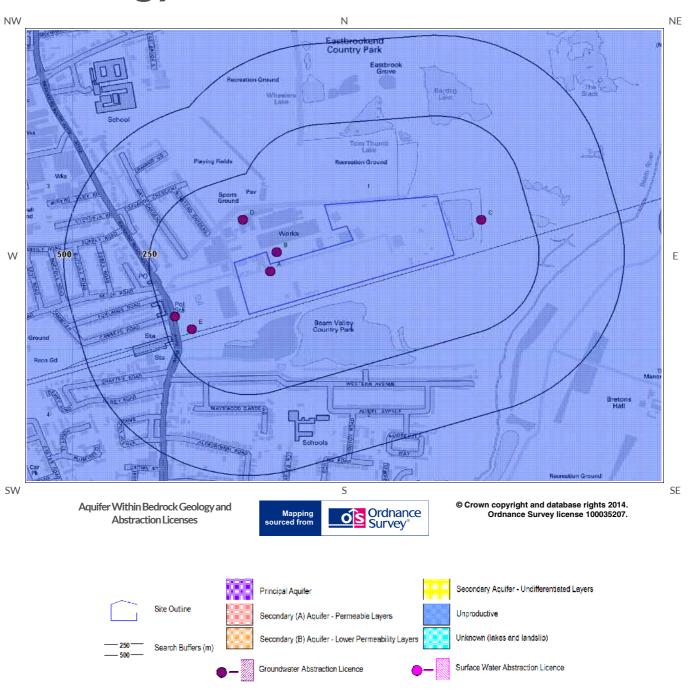


## 5. Hydrogeology and Hydrology5a. Aquifer Within Superficial Geology



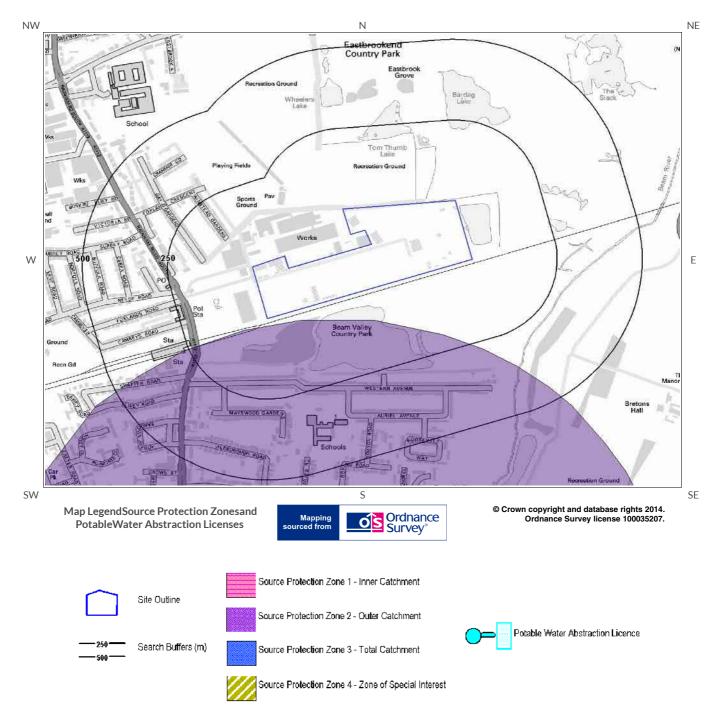


## 5b. Aquifer Within Bedrock Geology and Abstraction Licenses



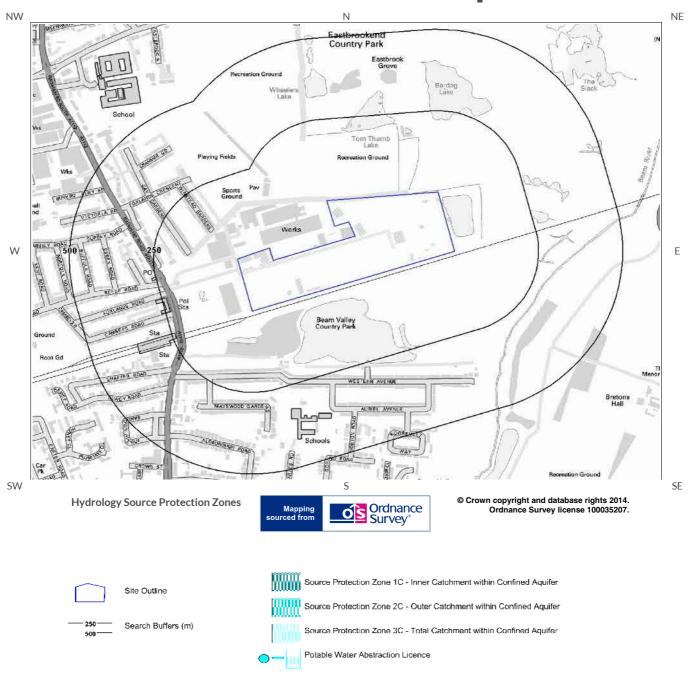


### 5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



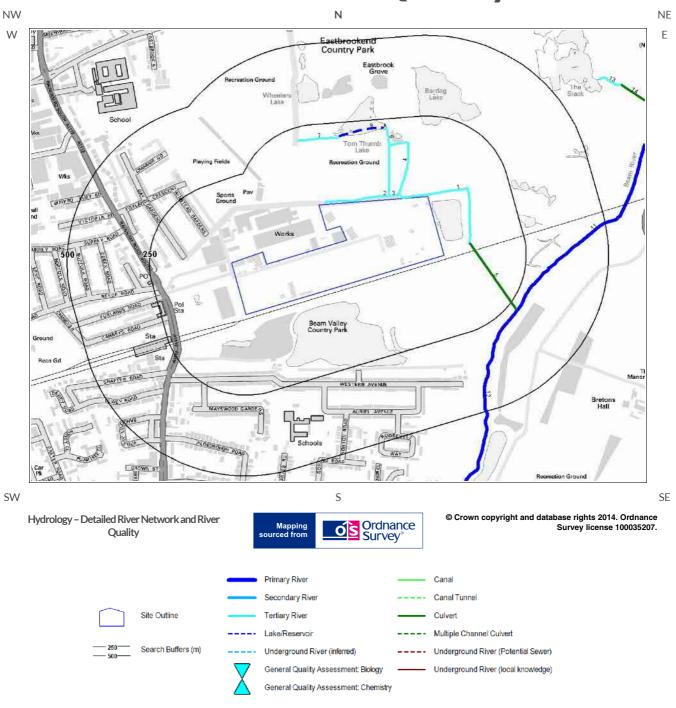


## 5d. Hydrology Source Protection Zones within confined aquifer





## 5 e. Hydrology – Detailed River Network and River Quality







#### 5.1 Aquifer within Superficial Deposits

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

From 1 April 2010, the Environment Agency'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 Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance (m)	Direction	Designation	Description
1	0.0	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
2	108.0	S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
7	148.0	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
8	289.0	SE	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
9	293.0	S	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
3	299.0	S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	475.0	W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers



#### 5.2 Aquifer within Bedrock Deposits

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

Yes

From 1 April 2010, the Environment Agency'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 Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	108.0	S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	475.0	W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

#### 5.3 Groundwater Abstraction Licences

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

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details		
5A	0.0	On Site	550580 185240	Licence No: 08/37/55/0017 Details: Process Water Direct Source: Thames Groundwater Point: Point 'a' At The Chemical Factory, Rainham Road South Data Type: Point	Annual Volume (m³): 522790  Max Daily Volume (m³): 2841.3  Original Application No: - Original Start Date: 3/2/1967  Expiry Date: - Issue No: 102  Version Start Date: 1/12/2006  Version End Date:	
6A	0.0	On Site	550580 185240	Licence No: 08/37/55/0017 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Point 'a' At The Chemical Factory, Rainham Road South Data Type: Point	Annual Volume (m³): 522790  Max Daily Volume (m³): 2841.3  Original Application No: -  Original Start Date: 3/2/1967  Expiry Date: -  Issue No: 102  Version Start Date: 1/12/2006  Version End Date:	
7В	29.0	E	550600 185300	Licence No: 08/37/55/0017 Details: Process water Direct Source: Thames Groundwater Point: Rainham Road South, Dagenham - Borehole 1 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:	



ID 8B	Distance (m)	Direction E	NGR 550600 185300	Details	
	29.0			Licence No: 08/37/55/0017 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Rainham Road South, Dagenham - Borehole 1 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:
9C	106.0	E	551200 185400	Licence No: 08/37/55/0017  Details: Process water  Direct Source: Thames Groundwater  Point: Rainham Road South, Dagenham - Borehole 3  Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:
10C	106.0	E	551200 185400	Licence No: 08/37/55/0017 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Rainham Road South, Dagenham - Borehole 3 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:
11D	116.0	N	550500 185400	Licence No: 08/37/55/0017 Details: Process water Direct Source: Thames Groundwater Point: Rainham Road South, Dagenham - Borehole 4 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:
12D	116.0	N	550500 185400	Licence No: 08/37/55/0017 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Rainham Road South, Dagenham - Borehole 4 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:
13E	176.0	W	550350 185060	Licence No: 08/37/55/0017 Details: Process Water Direct Source: Thames Groundwater Point: Point 'b' At The Chemical Factory, Rainham Road South Data Type: Point	Annual Volume (m³): 522790 Max Daily Volume (m³): 2841.3 Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 102 Version Start Date: 1/12/2006 Version End Date:
14E	176.0	W	550350 185060	Licence No: 08/37/55/0017 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Point 'b' At The Chemical Factory, Rainham Road South Data Type: Point	Annual Volume (m³): 522790  Max Daily Volume (m³): 2841.3  Original Application No: -  Original Start Date: 3/2/1967  Expiry Date: -  Issue No: 102  Version Start Date: 1/12/2006  Version End Date:
15F	213.0	W	550300 185100	Licence No: 08/37/55/0017 Details: Process water Direct Source: Thames Groundwater Point: Rainham Road South, Dagenham - Borehole 2 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:



ID 16F	Distance (m)	Direction W	NGR 550300 185100	Details	
				Licence No: 08/37/55/0017 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Rainham Road South, Dagenham - Borehole 2 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 3/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 3/2/1967 Version End Date:
Not shown	923.0	S	550870 184250	Licence No: 08/37/55/0054 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Dagenham Well 'a' Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 6/6/1968 Expiry Date: - Issue No: 100 Version Start Date: 1/4/1994 Version End Date:
Not shown	923.0	S	550870 184250	Licence No: 08/37/55/0054 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Dagenham Pumping Station - Well Data Type: Point	Annual Volume (m³): 1750000 Max Daily Volume (m³): 5909 Original Application No: NPS/WR/002900 Original Start Date: 6/6/1968 Expiry Date: - Issue No: 101 Version Start Date: 30/11/2009 Version End Date:

#### 5.4 Surface Water Abstraction Licences

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

No

Database searched and no data found.

#### 5.5 Potable Water Abstraction Licences

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

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (5c):

ID	Distance (m)	Direction	NGR	Details	
Not shown	923.0	S	550870 184250	Licence No: 08/37/55/0054 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Dagenham Well 'a' Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 6/6/1968 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:



ID	Distance (m)	Direction	NGR	D	etails
Not shown	923.0	S	550870 184250	Licence No: 08/37/55/0054 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Dagenham Pumping Station - Well Data Type: Point	Annual Volume (m³): 1750000 Max Daily Volume (m³): 5909 Original Application No: NPS/WR/002900 Original Start Date: 6/6/1968 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:

#### 5.6 Source Protection Zones

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

Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (5c):

ID	Distance (m)	Direction	Туре	Description
1	23.0	S	2	Outer Catchment

#### 5.7 Source Protection Zones within Confined Aquifer

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

Nο

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.



#### 5.8 Groundwater Vulnerability and Soil Leaching Potential

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

Distance (m)	Direction	Classification	Soil Vulnerability Category	Desc	cription	
0 On Site Mir		Minor Aquifer/High Leaching Potential	Ainor Aquifer/High Leaching HU to be		formation for urban areas estored mineral workings. soils are therefore assume highly permeable in the osence of site-specific information.	
475	W	Minor Aquifer/High Leaching Potential	HU	and restored r These soils are to be highly p absence o	on for urban area mineral working therefore assum permeable in the of site-specific rmation.	
5.9 River C	Quality					
Is there any	Environment <i>i</i>	Agency information on river qu	nality within 1500m of the stu	ıdy site?	No	
Is there any				ıdy site?	No -	
Is there any 5.9.1 Biolo	Environment <i>i</i>	Database searched a		ıdy site?	No -	



#### 5.10 Detailed River Network

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

Yes

The following Detailed River Network records are represented on the Hydrology Map (5e):

ID	Distance (m)	Direction	De	tails
1	3.0	N	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
2	5.0	N	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
3	10.0	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
4	15.0	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
5	86.0	E	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
6	172.0	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
7	204.0	N	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
8	207.0	N	River Name: Tom Thumb Lake Welsh River Name: - Alternative Name: -	River Type: Lake/Resivoir Main River Status: Currently Undefined
9A	220.0	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
10 A	220.0	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
11	277.0	SE	River Name: Beam River Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
12	280.0	SE	River Name: Beam River Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined



#### 5.11 Surface Water Features

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

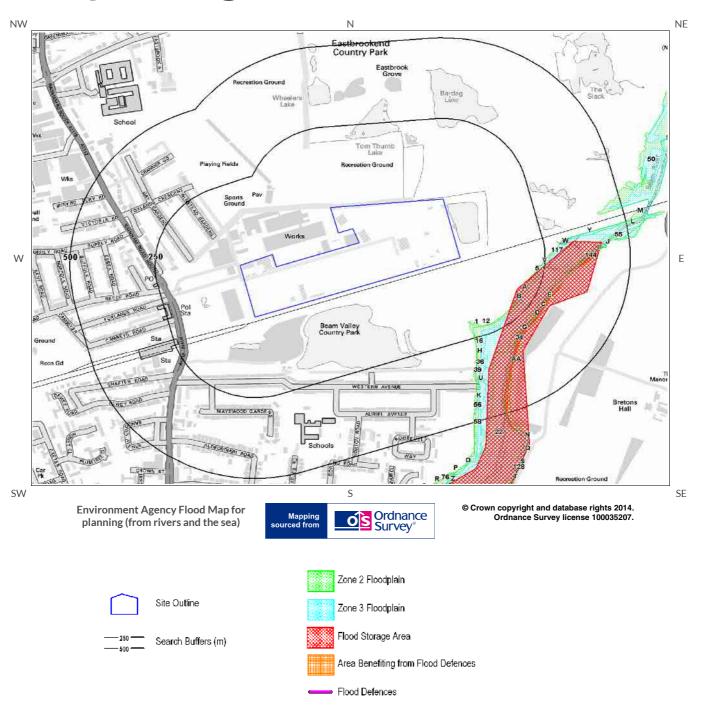
Yes

The following surface water records are not represented on mapping:

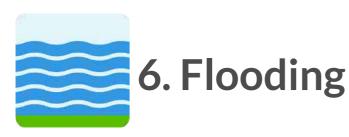
Distance (m)	Direction
3.0	E
3.0	N
5.0	N
10.0	N
39.0	S
80.0	S
167.0	S
172.0	N
204.0	N
206.0	N
220.0	N
223.0	N
246.0	E
249.0	E



# 6. Environment Agency Flood Map for planning (from rivers and the sea)







#### 6.1 Zone 2 Flooding

Environment Agency 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 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain?

Yes

The following floodplain records are represented as green shading on the Flood Map:

ID	Distance (m)	Direction	Update	Туре
1	196.0	S	03-Nov-2014	Zone 2 - (Fluvial Models )
2A	208.0	SE	03-Nov-2014	Zone 2 - (Fluvial Models )
3A	209.0	SE	03-Nov-2014	Zone 2 - (Tidal Models )
4	209.0	SE	03-Nov-2014	Zone 2 - (Fluvial / Tidal Models )
5	209.0	E	03-Nov-2014	Zone 2 - (Fluvial Models )
6B	209.0	SE	03-Nov-2014	Zone 2 - (Fluvial Models )
7A	209.0	SE	03-Nov-2014	Zone 2 - (Tidal Models )
8A	210.0	SE	03-Nov-2014	Zone 2 - (Fluvial Models )
9A	210.0	SE	03-Nov-2014	Zone 2 - (Tidal Models )
10B	212.0	SE	03-Nov-2014	Zone 2 - (Tidal Models )
11	213.0	SE	03-Nov-2014	Zone 2 - (Fluvial Models )
12	221.0	S	03-Nov-2014	Zone 2 - (Tidal Models )
13	239.0	S	03-Nov-2014	Zone 2 - (Tidal Models )
14V	240.0	E	03-Nov-2014	Zone 2 - (Tidal Models )
15Y	242.0	E	03-Nov-2014	Zone 2 - (Fluvial Models )



#### 6.2 Zone 3 Flooding

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 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain?

Yes

The following floodplain records are represented as blue shading on the Flood Map:

ID	Distance (m)	Direction	Update	Туре
114U	216.0	SE	03-Nov-2014	Zone 3 - (Tidal Models )
115	221.0	SE	03-Nov-2014	Zone 3 - (Fluvial / Tidal Models )
116V	244.0	Е	03-Nov-2014	Zone 3 - (Fluvial Models )
117	247.0	Е	03-Nov-2014	Zone 3 - (Tidal Models )

#### 6.3 Flood Defences

Are there any Flood Defences within 250m of the study site?

No

Database searched and no data found.

#### 6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site?

No

#### 6.5 Areas benefiting from Flood Storage

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

Yes

#### 6.6 Groundwater Flooding Susceptibility Areas

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

Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Superficial Deposits Flooding

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



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

Potential at Surface

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

#### 6.7 Groundwater Flooding Confidence Areas

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

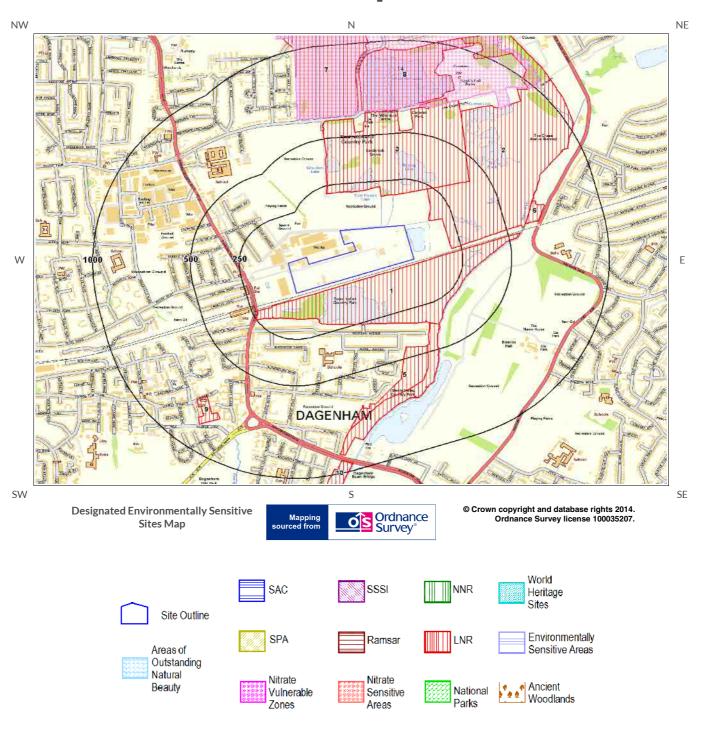
Moderate

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

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



# 7. Designated Environmentally Sensitive Sites Map







# 7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?	Yes
7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:	<del>-</del> 0
Database searched and no data found.	
7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:	<b>-</b> 0
Database searched and no data found.	
7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:	_ C
Database searched and no data found.	
7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:	_ C
Database searched and no data found.	
7.5 Records of Ramsar sites within 2000m of the study site:	_ C
Database searched and no data found.	



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

0

Database searched and no data found.

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

13

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
1	26.0	S	Beam Valley	Natural England
2	129.0	E	The Chase	Natural England
3	167.0	N	East Brookend Country Park	Natural England
4	350.0	S	Beam Valley	Natural England
5	442.0	S	Beam Valley	Natural England
6	600.0	Е	The Chase	Natural England
7	613.0	N	East Brookend Country Park	Natural England
8	629.0	N	East Brookend Country Park	Natural England
9	721.0	SW	Dagenham Village Churchyard	Natural England
10	932.0	S	Beam Valley	Natural England
Not shown	1087.0	S	Beam Valley	Natural England
Not shown	1188.0	NE	The Chase	Natural England
Not shown	1877.0	SE	Ingrebourne Valley	Natural England

7.8 Records of World Heritage Sites within 2000m of the study site:	
Database searched and no data found.	
7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:	
Database searched and no data found.	
7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:	
Database searched and no data found.	



7.11 Records of National Parks (NP) within 2000m of the study site:	
	0
Database searched and no data found.	
7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:	•
	0
Database searched and no data found.	
7.13 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
14	613.0	N	NVZ Area	DEFRA





#### 8.1 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 GeoInsight**, available from **our website**. The following information has been found:

#### 8.1.1 Shrink Swell

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

Moderate

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

#### Hazard

Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. 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 probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

#### 8.1.2 Landslides

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

Very Low

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

#### Hazard

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

<sup>\*</sup> This indicates an automatically generated 50m buffer and site.



#### 8.1.3 Soluble Rocks

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

Negligible

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

#### Hazard

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

#### 8.1.4 Compressible Ground

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

Moderate

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

#### Hazard

Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build €onsider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

#### 8.1.5 Collapsible Rocks

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

Very Low

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

#### Hazard

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



#### 8.1.6 Running Sand

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

Very Low

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

#### Hazard

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

<sup>\*</sup> This indicates an automatically generated 50m buffer and site.





## 9. Mining

#### 9.1 Coal Mining

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

No

Database searched and no data found.

#### 9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site\*?

Negligible

\*Please note this data is searched with a 150m buffer.

#### 9.3 Brine Affected Areas

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

No

Guidance: No Guidance Required.



### **Contact Details**

GroundSure Helpline Telephone: 08444 159 000 info@groundsure.com



**British Geological Survey Enquiries** 

Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276. Email: enquiries@bgs.ac.uk Web:www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



National Customer Contact Centre, PO Box 544 Rotherham, S60 1BY Tel: 08708 506 506

Web:www.environment-agency.gov.uk Email:enquiries@environment-agency.gov.uk



Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG

https://www.gov.uk/government/organisations/public-healthengland

Email:enquiries@phe.gov.uk Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5 www.coal.gov.uk

Ordnance Survey

Adanac Drive, Southampton SO16 0AS Tel: 08456 050505

Local Authority
Authority: Barking and Dagenham London Borough Council
Phone: 020 8592 4500
Web: www.barking-dagenham.gov.uk/index.cfm
Address: Civic Centre, Dagenham, RM10 7BN

**Gemapping PLC** 

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















Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. 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**

#### 1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

- (i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and
- (ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

**"Third Party Data Provider"** means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

**"Services"** means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

### 2 Scope of Services, terms and conditions, requests for insurance and quotations

- 2.1 GroundSure agrees to provide the Services in accordance with the Contract.
- 2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services
- 2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.
- 2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

#### 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

- (i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and
- (ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.
- 3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.
- 3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.
- 3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

#### 4 Reliance

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

 $\mbox{\ensuremath{(v)}}$  the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

#### **5 Fees and Disbursements**

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

- 5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.
- 5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

#### 6 Intellectual Property and Confidentiality

#### 6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.
- 6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.
- 6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.
- $6.4\ \mbox{The Client shall,}$  and shall procure that any recipients of the GroundSure Materials shall:
- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services:
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,
- 6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.
- 6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### 7. Liability: Particular Attention Should Be Paid To This Clause

- 7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:
  - (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors:
  - (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.
- 7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.
- 7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- $\mbox{(xiii)} \qquad \mbox{loss or damage to a computer, software, modem, telephone or other property; and} \\$
- (xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.
- 7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.
- 7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### 8 GroundSure's right to suspend or terminate

- 8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.
- 8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:
- (i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or
- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

- 9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.
- 9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:
- (i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and
  - (ii) the Reports and/or Mapping provided under this Contract are
    - (a) supplied to the Client's specification(s) and in any event
    - (b) by their nature cannot be returned.

#### 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

#### 11 Anti-Bribery

11.1 The Client warrants that it shall:

- (i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010:
- (ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and
- (iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.
- 11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 General

- 12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.
- 12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.
- 12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.
- 12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.
- 12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.
- 12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
- 12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:
- (i) the Client or Beneficiary's failure to provide facilities, access or information:
  - (ii) fire, storm, flood, tempest or epidemic;
  - (iii) Acts of God or the public enemy;
  - (iv) riot, civil commotion or war;
  - (v) strikes, labour disputes or industrial action;
  - (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
  - (viii) changes in law; or
  - (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

- 12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.
- 12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.
- 12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.
- 12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.
- 12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

- 12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.
- 12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.
- 12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013



Delta-Simons

GroundSure

GS-1787061

UNIT 3 DELTA SIMONS LTD, HENLEY WAY, LINCOLN, LN6 3QR

Reference:

DS23039

Report Date

26 Nov 2014

Report Delivery

Your Reference:

Method:

Email - pdf

#### **GroundSure Geoinsight**

Address:

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure GeoInsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

Managing Director Groundsure Limited

Fnc

GroundSure GeoInsight



## GroundSure GeoInsight

Address:

Date: 26 Nov 2014

Reference: GS-1787061

Client: Delta-Simons

NW NE



SW SE

Aerial Photograph Capture date: 20-Apr-2013
Grid Reference: 550802,185269

Site Size: 11.40ha

## **Contents Page**

Overview of Findings	5
1 Geology	8
1.1 Artificial Ground Map	8
1 Geology	
1.1 Artificial Ground	
1.1.1Artificial/ Made Ground	9
1.1.2 Permeability of Artificial Ground	
1.2 Superficial Deposits and Landslips Map	
1.2 Superficial Deposits and Landslips	
1.2.1 Superficial Deposits/ Drift Geology	
1.2.3 Landslip	
1.2.4 Landslip Permeability	
1.3 Bedrock and Faults Map	
1.3 Bedrock, Solid Geology & Faults	13
1.3.1 Bedrock/ Solid Geology	
1.3.2 Permeability of Bedrock Ground	
1.4 Radon Data	
1.4.1 Radon Affected Areas	
1.4.2 Radon Protection	
2 Ground Workings Map	15
2 Ground Workings	16
2.1 Historical Surface Ground Working Features derived from Historical Mapping	
2.2 Historical Underground Working Features derived from Historical Mapping	
2.3 Current Ground Workings	
3 Mining, Extraction & Natural Cavities Map	
3 Mining, Extraction & Natural Cavities	
3.1 Historical Mining	
3.2 Coal Mining	
3.3 Johnson Poole and Bloomer	
3.4 Non-Coal Mining	
3.5 Non-Coal Mining Cavities	
3.6 Natural Cavities	
3.7 Brine Extraction	
3.8 Gypsum Extraction	
3.9 Tin Mining	
3.10 Clay Mining	
4 Natural Ground Subsidence	
4.1 Shrink-Swell Clay Map	
4.2 Landslides Map	
4.3 Ground Dissolution Soluble Rocks Map	
4.4 Compressible Deposits Map	
4.5 Collapsible Deposits Map	
4.6 Running Sand Map	
4 Natural Ground Subsidence4	
4.1 Shrink-Swell Clays	
4.1 Sin nik-3wen Clays	
4.3 Ground Dissolution of Soluble Rocks	
4.4 Compressible Deposits	
4.5 Collapsible Deposits	
4.6 Running Sands	
5 Borehole Records Map5	
5 Borehole Records	
J DUI CHUIC NECUHUS	



6 Estimated Background Soil Chemistry	34
7 Railways and Tunnels Map	35
7 Railways and Tunnels	36
7.1 Tunnels	36
7.2 Historical Railway and Tunnel Features	37
7.3 Historical Railways	37
7.4 Active Railways	38
7.5 Railway Projects	38



### **Overview of Findings**

The GroundSure GeoInsight 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 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow 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						
1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made the study site?	Ground preser	nt beneath	Yes		
	1.1.2 Are there any records relating to per ground within the study site* boundary?	meability of ar	tificial	Yes		
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift beneath the study site?	Geology prese	ent	Yes		
	1.2.2 Are there any records relating to per geology within the study site boundary?	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?				
	1.2.3 Are there any records of landslip with site boundary?	nin 500m of the	estudy	No		
	1.2.4 Are there any records relating to per within the study site boundary?	meability of lar	ndslips	No		
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geo site* see the detailed findings section.	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 relating to per within the study site boundary?	Yes				
	1.3.3 Are there any records of faults within boundary?	n 500m of the s	tudy site	No		
1.4 Radon data	1.4.1 Is the property in a Radon Affected A Health Protection Agency (HPA) and if so 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		
	1.4.2 Is the property in an area where Rade are required for new properties or extensi described in publication BR211 by the Bui Establishment?	ons to existing		No radon prot necessary	ective measur	es are
Section 2:Ground V	Vorkings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface G Mapping	round Working Features from Small Scale	4	7	23	Not Searched	Not Searched
2.2 Historical Undergro	und Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Wo	rkings	0	0	3	1	6
Section 3:Mining, Ex	xtraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining		0	0	0	0	0

Report Reference: GS-1787061

DS23039



Section 3:Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	0	0	0	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4:Natural Ground Subsidence	On-si	ite			
4.1 Shrink Swell Clay	Moder	ate			
4.2 Landslides	Very L	OW			
4.3 Ground Dissolution of Soluble Rocks	Negligi	ible			
4.4 Compressible Deposits	Moder	ate			
4.5 Collapsible Deposits	Very L	OW			
4.6 Running Sand	Very L	ow	1		,
Section 5:Borehole Records	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	16	0	9		
Section 6:Estimated Background Soil Chemistry	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	3	6	18		
Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	1	0	Not Searched	
7.2 Historical Railway and Tunnel Features	5	2	9	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	0	5	0	Not Searched	

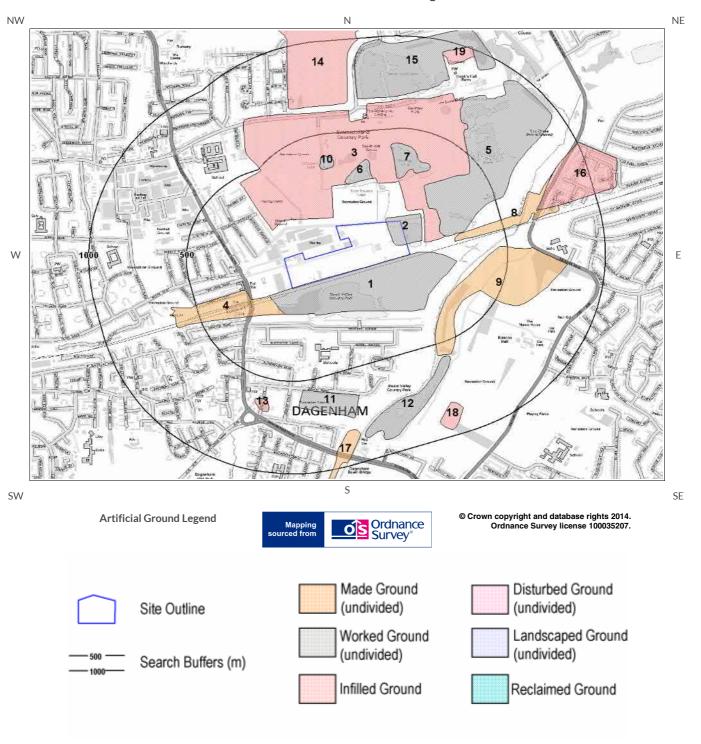


Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500	
7.5 Railway Projects	0	0	0	0	



## 1 Geology

## 1.1 Artificial Ground Map







# 1 Geology1.1 Artificial Ground

#### 1.1.1Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:257

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

Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
2	0.0	On Site	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
3	47.0	N	WMGR-MGRD	INFILLED GROUND	ARTIFICIAL DEPOSIT
4	119.0	SW	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
5	161.0	NE	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
6	220.0	N	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
7	230.0	N	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
8	241.0	Е	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
9	289.0	SE	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
10	311.0	N	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID

#### 1.1.2 Permeability of Artificial Ground

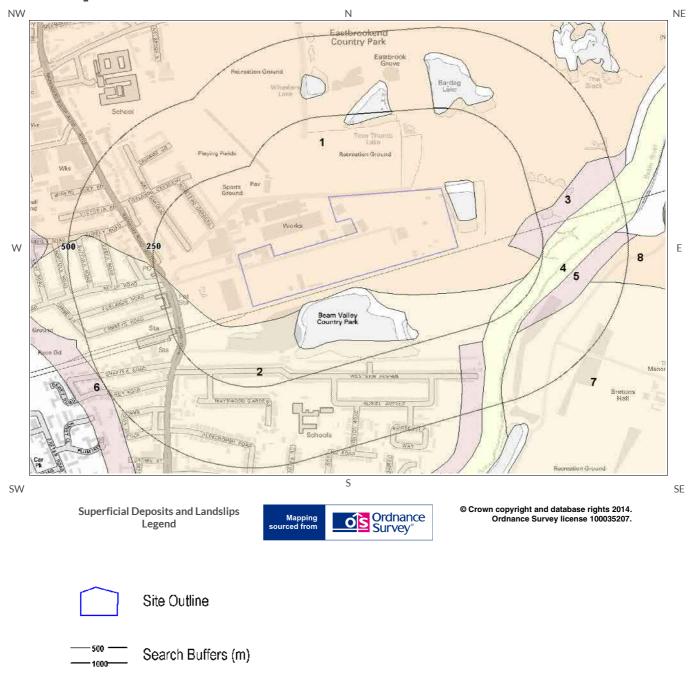
Are there any records relating to permeability of artificial ground within the study site boundary?

Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
47.0	N	Intergranular	Very High	Very Low



## 1.2 Superficial Deposits and Landslips Map





### 1.2 Superficial Deposits and Landslips

#### 1.2.1 Superficial Deposits/ Drift Geology

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

Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	HAGR-SAGR	HACKNEY GRAVEL MEMBER	SAND AND GRAVEL
2	41.0	S	TPGR-SAGR	TAPLOW GRAVEL FORMATION	SAND AND GRAVEL
3	148.0	Е	HEAD-CSSG	HEAD	CLAY, SILT, SAND AND GRAVEL
4	206.0	SE	ALV-CSSG	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
5	289.0	SE	HEAD-CSSG	HEAD	CLAY, SILT, SAND AND GRAVEL
6	293.0	S	HEAD-CSSG	HEAD	CLAY, SILT, SAND AND GRAVEL
7	316.0	SE	TPGR-SAGR	TAPLOW GRAVEL FORMATION	SAND AND GRAVEL
8	402.0	Е	HAGR-SAGR	HACKNEY GRAVEL MEMBER	SAND AND GRAVEL

#### 1.2.2 Permeability of Superficial Ground

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

Yes

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

#### 1.2.3 Landslip

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

No

#### Database searched and no data found.

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.

#### 1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site\*\* boundary?

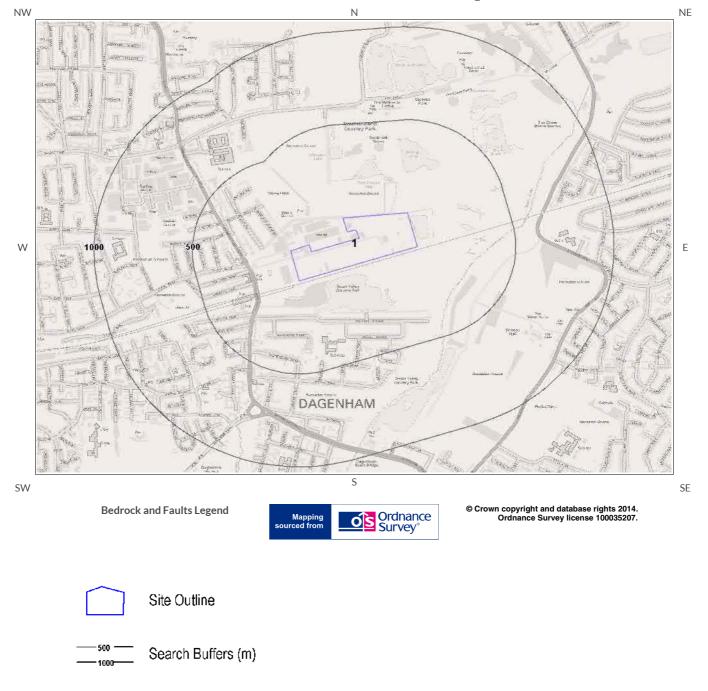
No

Database searched and no data found.

<sup>\*</sup> This includes an automatically generated 50m buffer zone around the site



## 1.3 Bedrock and Faults Map





## 1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:257

#### 1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LC-CLSS	London Clay Formation - Clay, Silt And Sand	Eocene

#### 1.3.2 Permeability of Bedrock Ground

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

Yes

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

#### 1.3.3 Faults

Are there any records of Faults 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 nationwide coverage.

<sup>\*</sup> This includes an automatically generated 50m buffer zone around the site



### 1.4 Radon Data

#### 1.4.1 Radon Affected Areas

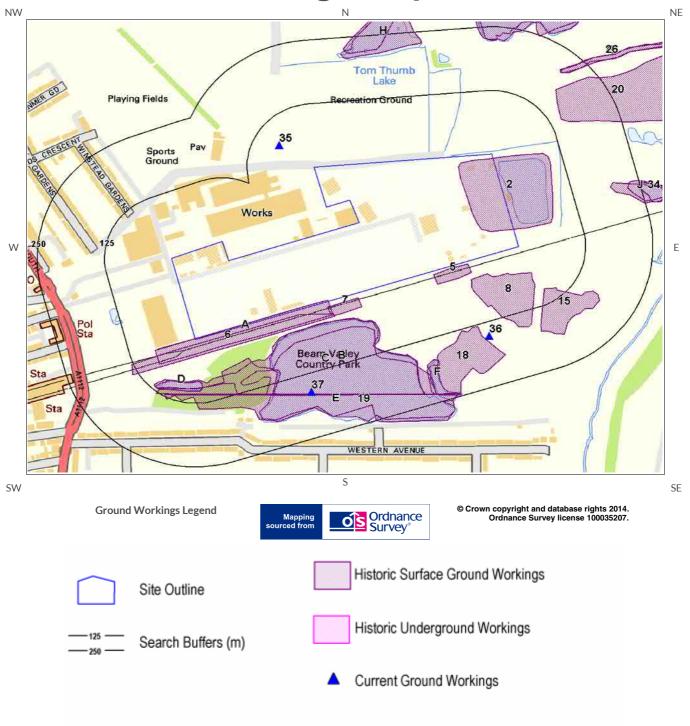
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

#### 1.4.2 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



## 2 Ground Workings Map







## 2 Ground Workings

#### 2.1 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

The following Historical Surface Ground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	0.0	On Site	550609 185123	Cuttings	1975
2	0.0	On Site	551096 185397	Pond	1989
3A	0.0	On Site	550609 185123	Cuttings	1989
4A	0.0	On Site	550609 185123	Cuttings	1967
5	4.0	S	550997 185237	Cuttings	1895
6	9.0	S	550590 185099	Cuttings	1895
7	9.0	S	550781 185173	Cuttings	1895
8	35.0	S	551091 185186	Pond	1967
9B	37.0	S	550802 185075	Water Body	1975
10B	37.0	S	550802 185075	Water Body	1989
11C	39.0	S	550694 185075	Water Body	1967
12C	59.0	S	550707 185067	Pond	1955
13D	82.0	S	550488 185017	Pond	1975
14D	82.0	S	550488 185017	Pond	1989
15	96.0	SE	551216 185164	Pond	1967
16E	109.0	S	550735 184974	Water Bodies	1973
17E	109.0	S	550735 184974	Water Bodies	1967
18	127.0	S	551023 185066	Ponds	1967
19	146.0	S	550824 184975	Water Body	1992
20	147.0	NE	551379 185615	Gravel Pit	1955
21F	166.0	S	550965 185035	Pond	1975



ID	Distance (m)	Direction	NGR	Use	Date
22F	166.0	S	550965 185035	Pond	1989
23J	196.0	Е	551341 185396	Pond	1955
24G	205.0	NE	551409 185800	Unspecified Ground Workings	1967
25G	205.0	NE	551409 185800	Unspecified Ground Workings	1975
26	207.0	NE	551420 185739	Unspecified Ground Workings	1989
27H	209.0	N	550864 185724	Water Body	1975
28H	209.0	N	550864 185724	Water Body	1989
29H	218.0	N	550849 185729	Gravel Pit	1967
301	223.0	N	551128 185788	Water Body	1975
311	224.0	N	551128 185788	Water Body	1989
32J	226.0	Е	551358 185400	Pond	1975
33J	226.0	Е	551358 185400	Pond	1967
34	248.0	Е	551370 185399	Pond	1989

# 2.2 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.

## 2.3 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:

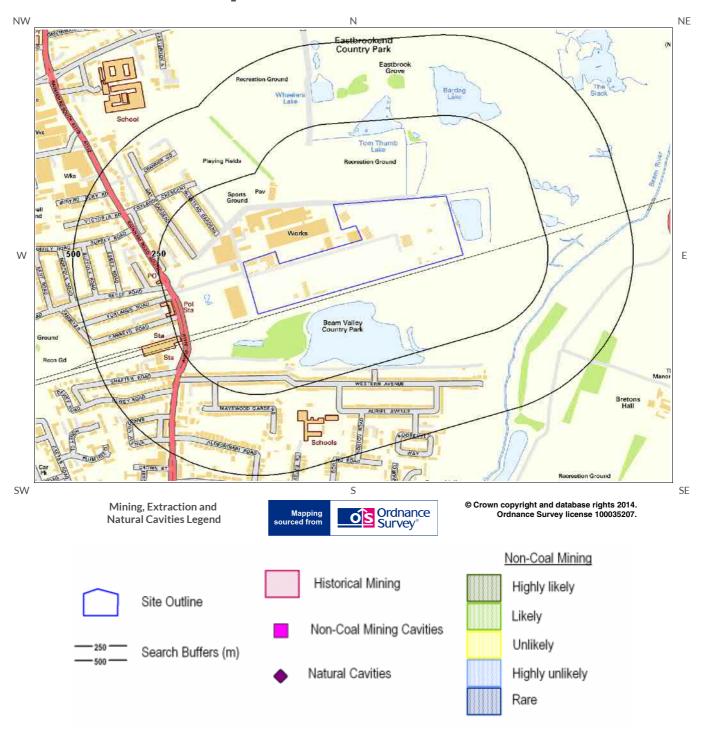
ID	Distance (m)	e Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
35	78.0	NW	550675 185490	Sand & Gravel	Foxlands	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased



ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
36	152.0	S	551065 185115	Sand & Gravel	Western Avenue	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
37	161.0	S	550735 185005	Sand & Gravel	Western Avenue	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	303.0	N	551050 185775	Sand & Gravel	Eastbrookend	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	533.0	NW	550460 185900	Sand & Gravel	Eastbrookend	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	595.0	NE	551495 185890	Sand & Gravel	Eastbrookend	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	673.0	S	550700 184460	Sand & Gravel	Manor Road	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	768.0	N	551110 186240	Sand & Gravel	Eastbrookend Farm	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	821.0	S	551060 184415	Sand & Gravel	Beam River	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	902.0	N	550715 186350	Sand & Gravel	Eastbrook Farm & Fels Farm	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased



# 3 Mining, Extraction & Natural Cavities Map







# 3.1 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.

## 3.2 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.

## 3.3 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.

## 3.4 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.

## 3.5 Non-Coal Mining Cavities

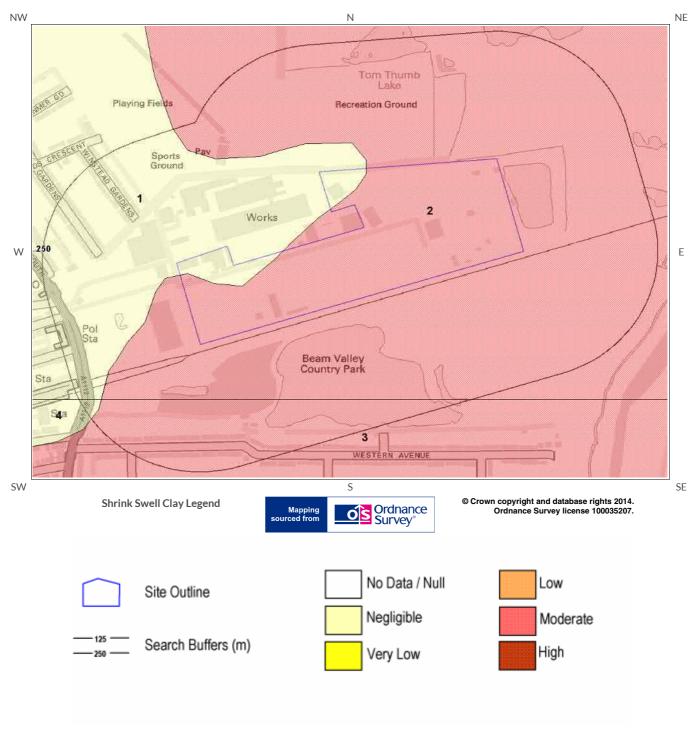
This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.



Are there any Non-Coal Mining cavities within 1000m of the study site boundary?	No
Database searched and no data found.	
3.6 Natural Cavities	
This dataset provides information based on Peter Brett Associates natural cavities database.	
Are there any Natural Cavities within 1000m of the study site boundary?	No
Database searched and no data found.	
3.7 Brine Extraction	
This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Sub Compensation Board.	sidence
Are there any Brine Extraction areas within 1000m of the study site boundary?	No
Database searched and no data found.	
3.8 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.	
3.9 Tin Mining	
This dataset provides information on tin mining areas and is derived from tin mining records. This sebased upon postcode information to a sector level.	earch is
Are there any Tin Mining areas within 1000m of the study site boundary?	No
Database searched and no data found.	
3.10 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.	

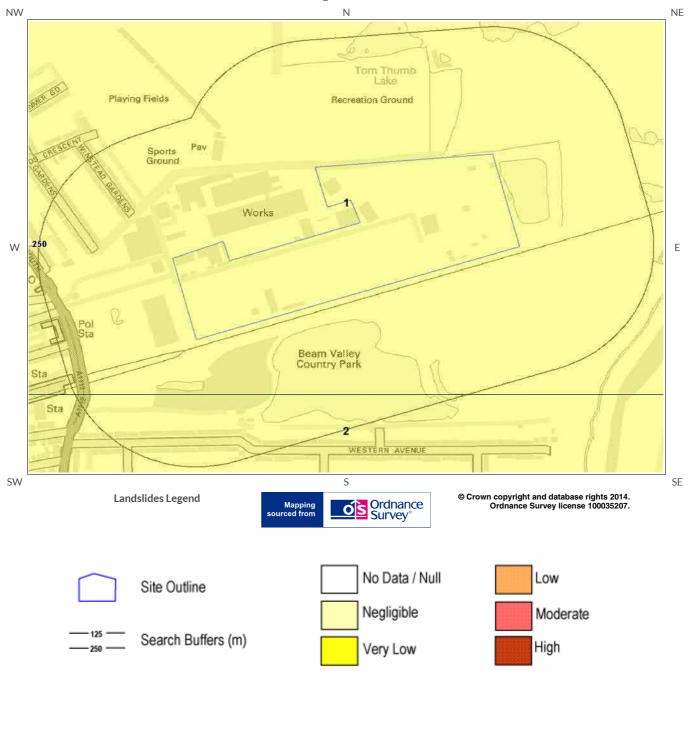


# 4 Natural Ground Subsidence 4.1 Shrink-Swell Clay Map



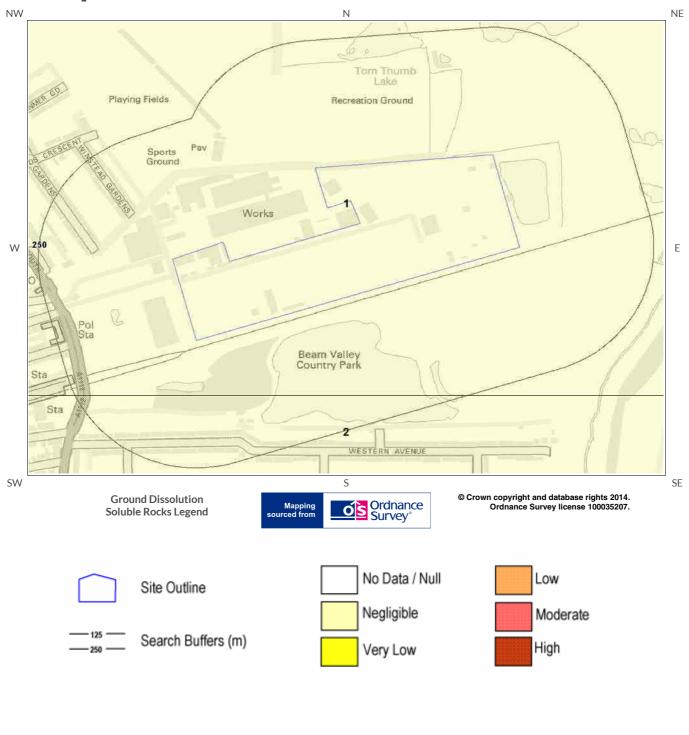


# 4.2 Landslides Map



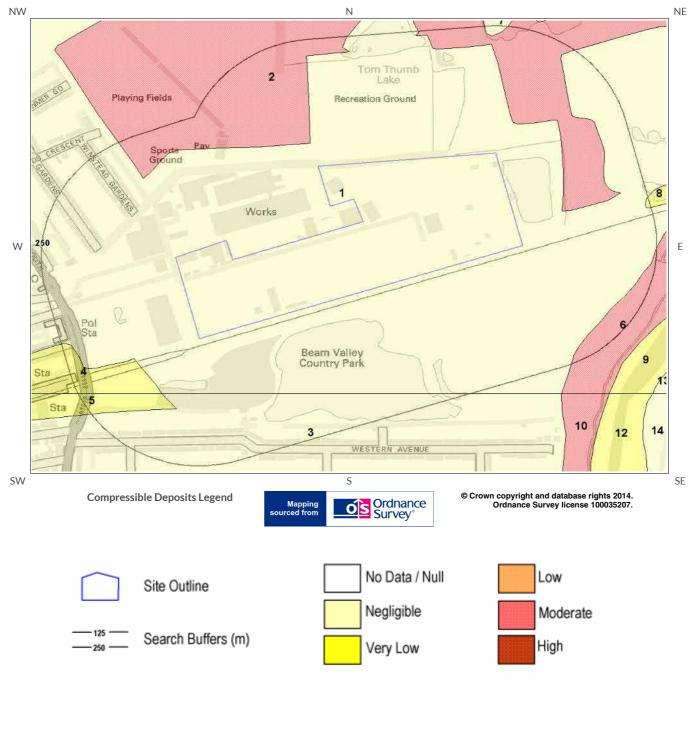


# 4.3 Ground Dissolution Soluble Rocks Map



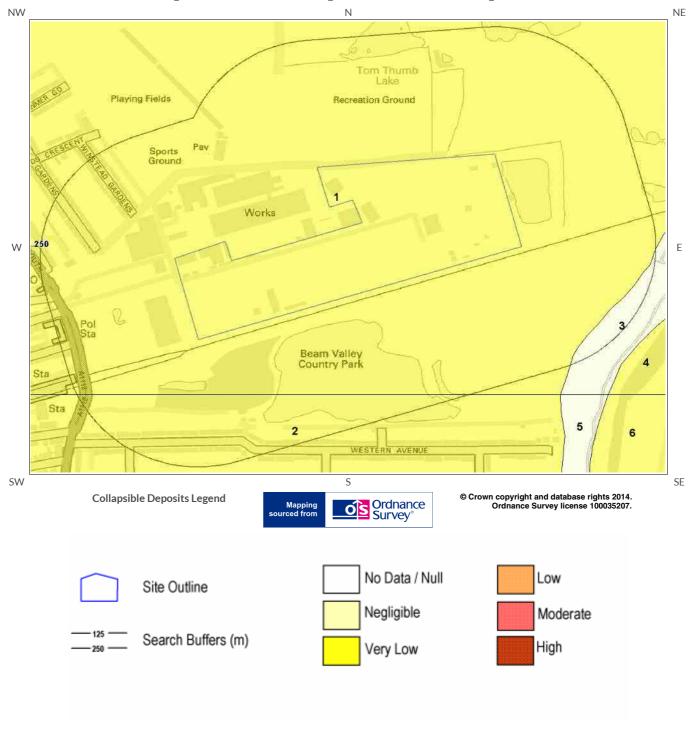


# 4.4 Compressible Deposits Map



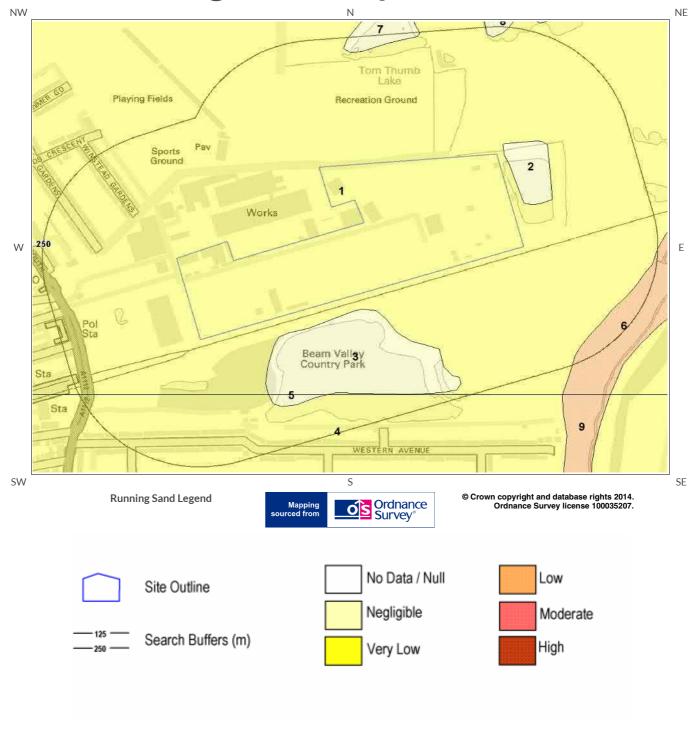


# 4.5 Collapsible Deposits Map





# 4.6 Running Sand Map







# 4 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?

Moderate

## 4.1 Shrink-Swell Clays

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	0.0	On Site	Moderate	Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. 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 probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

# 4.2 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.

## 4.3 Ground Dissolution of Soluble Rocks

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

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

<sup>\*</sup> This includes an automatically generated 50m buffer zone around the site



# 4.4 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.
2	47.0	N	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

# 4.5 Collapsible Deposits

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

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

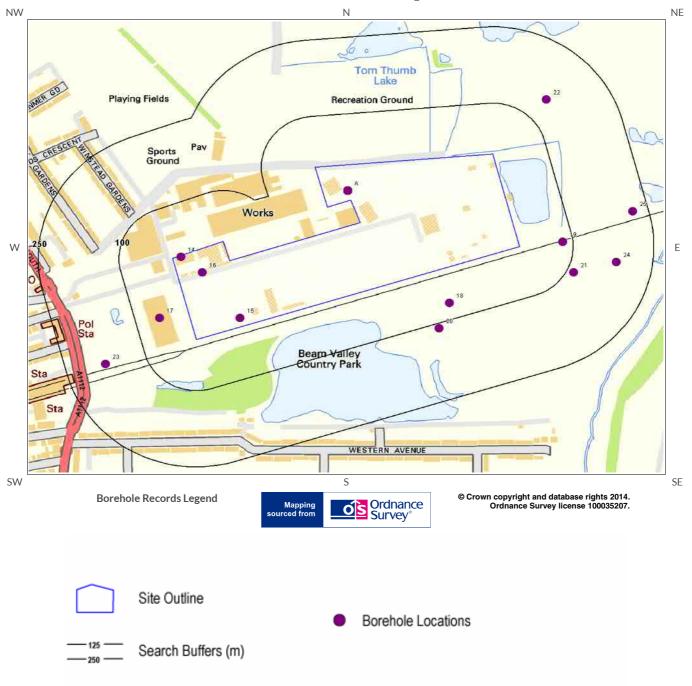
# 4.6 Running Sands

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand.  No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	13.0	Е	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
3	29.0	S	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.



# 5 Borehole Records Map







# **5 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:

25



ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1A	0.0	On Site	550800 185400	TQ58NW151	3.1	BUILDING 47 RHONE POULENC RORER DAGENHAM TP 3
2A	0.0	On Site	550800 185400	TQ58NW152	3.0	BUILDING 47 RHONE POULENC RORER DAGENHAM TP 4
ЗА	0.0	On Site	550800 185400	TQ58NW161	10.0	BUILDING 47 RHONE POULENC RORER DAGENHAM 6
4A	0.0	On Site	550800 185400	TQ58NW150	3.0	BUILDING 47 RHONE POULENC RORER DAGENHAM TP 2
5A	0.0	On Site	550800 185400	TQ58NW158	10.0	BUILDING 47 RHONE POULENC RORER DAGENHAM 3
6A	0.0	On Site	550800 185400	TQ58NW153	3.0	BUILDING 47 RHONE POULENC RORER DAGENHAM TP 5
7A	0.0	On Site	550800 185400	TQ58NW157	10.0	BUILDING 47 RHONE POULENC RORER DAGENHAM 2
8A	0.0	On Site	550800 185400	TQ58NW154	3.0	BUILDING 47 RHONE POULENC RORER DAGENHAM TP 6
9A	0.0	On Site	550800 185400	TQ58NW160	20.0	BUILDING 47 RHONE POULENC RORER DAGENHAM 5
10A	0.0	On Site	550800 185400	TQ58NW156	20.0	BUILDING 47 RHONE POULENC RORER DAGENHAM 1
11A	0.0	On Site	550800 185400	TQ58NW149	3.2	BUILDING 47 RHONE POULENC RORER DAGENHAM TP 1
12A	0.0	On Site	550800 185400	TQ58NW155	1.0	BUILDING 47 RHONE POULENC RORER DAGENHAM TP 7
13A	0.0	On Site	550800 185400	TQ58NW159	20.0	BUILDING 47 RHONE POULENC RORER DAGENHAM 4
14	0.0	On Site	550490 185270	TQ58NW148	153.31	STOCKDALE FACTOR
15	0.0	On Site	550600 185150	TQ58NW129	8.53	MAY AND BAKER TP
16	0.0	On Site	550530 185240	TQ58NW218	152.4	NUMBER NOT USED
17	55.0	W	550450 185150	TQ58NW127	152.39	STOCKDALE FACTOR NO1 (M&B)
18	68.0	S	550990 185180	TQ58NW228	4.5	RAINHAM DRIVE DAGENHAM BH5
19	81.0	E	551200 185300	TQ58NW131	6.1	MAY AND BAKER 1 SPORTS GRND
20	110.0	S	550970 185130	TQ58NW225	5.5	RAINHAM DRIVE DAGENHAM BH2
21	112.0	SE	551220 185240	TQ58NW227	5.75	RAINHAM DRIVE DAGENHAM BH4
22	146.0	NE	551170 185580	TQ58NW147	152.4	STOCKDALE FACTOR
23	176.0	W	550350 185060	TQ58NW128	152.39	STOCKDALE FACTOR NO2
24	183.0	E	551300 185260	TQ58NW226	7.5	RAINHAM DRIVE DAGENHAM BH3



ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
25	221.0	Е	551330 185360	TQ58NW130	6.25	MAY AND BAKER

Additional online information is available for the following boreholes listed above:

#1A: scans.bgs.ac.uk/sobi\_scans/boreholes/751254 #2A: scans.bgs.ac.uk/sobi\_scans/boreholes/751255 #3A: scans.bgs.ac.uk/sobi\_scans/boreholes/751264 #4A: scans.bgs.ac.uk/sobi scans/boreholes/751253 #5A: scans.bgs.ac.uk/sobi\_scans/boreholes/751261 #6A: scans.bgs.ac.uk/sobi\_scans/boreholes/751256 #7A: scans.bgs.ac.uk/sobi\_scans/boreholes/751260 #8A: scans.bgs.ac.uk/sobi\_scans/boreholes/751257 #9A: scans.bgs.ac.uk/sobi\_scans/boreholes/751263 #10A: scans.bgs.ac.uk/sobi\_scans/boreholes/751259 #11A: scans.bgs.ac.uk/sobi\_scans/boreholes/751252 #12A: scans.bgs.ac.uk/sobi\_scans/boreholes/751258 #13A: scans.bgs.ac.uk/sobi\_scans/boreholes/751262 #14: scans.bgs.ac.uk/sobi\_scans/boreholes/751251 #15: scans.bgs.ac.uk/sobi\_scans/boreholes/751232 #16: scans.bgs.ac.uk/sobi\_scans/boreholes/751321 #17: scans.bgs.ac.uk/sobi\_scans/boreholes/751230 #18: scans.bgs.ac.uk/sobi\_scans/boreholes/751331 #19: scans.bgs.ac.uk/sobi\_scans/boreholes/751234 #20: scans.bgs.ac.uk/sobi\_scans/boreholes/751328 #21: scans.bgs.ac.uk/sobi\_scans/boreholes/751330 #22: scans.bgs.ac.uk/sobi\_scans/boreholes/751250 #23: scans.bgs.ac.uk/sobi\_scans/boreholes/751231 #24: scans.bgs.ac.uk/sobi\_scans/boreholes/751329 #25: scans.bgs.ac.uk/sobi\_scans/boreholes/751233





# 6 Estimated Background Soil Chemistry

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

27

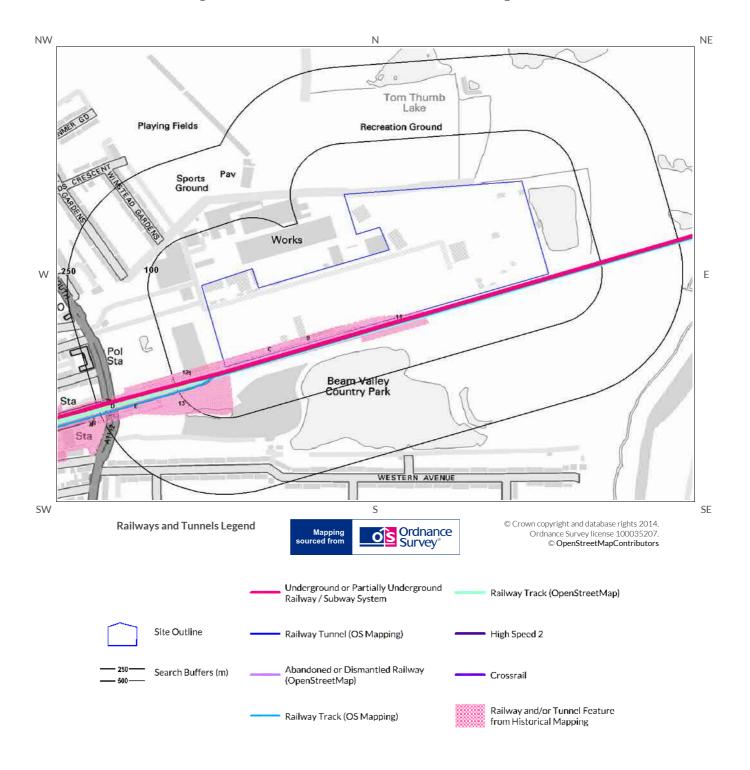
For further information on how this data is calculated and limitations upon its use, please see the GroundSure GeoInsight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	London	No data	No data	No data	No data	No data
0.0	On Site	London	No data	No data	No data	No data	No data
0.0	On Site	London	No data	No data	No data	No data	No data
13.0	E	London	No data	No data	No data	No data	No data
27.0	N	London	No data	No data	No data	No data	No data
29.0	S	London	No data	No data	No data	No data	No data
32.0	N	London	No data	No data	No data	No data	No data
41.0	S	London	No data	No data	No data	No data	No data
50.0	S	London	No data	No data	No data	No data	No data
61.0	S	London	No data	No data	No data	No data	No data
105.0	S	London	No data	No data	No data	No data	No data
108.0	S	London	No data	No data	No data	No data	No data
108.0	S	London	No data	No data	No data	No data	No data
110.0	S	London	No data	No data	No data	No data	No data
110.0	S	London	No data	No data	No data	No data	No data
140.0	S	London	No data	No data	No data	No data	No data
140.0	S	London	No data	No data	No data	No data	No data
148.0	E	London	No data	No data	No data	No data	No data
172.0	S	London	No data	No data	No data	No data	No data
172.0	S	London	No data	No data	No data	No data	No data
206.0	SE	RuralSoil	15 - 25 mg/kg	No data	120 - 180 mg/kg	45 - 60 mg/kg	No data
211.0	N	London	No data	No data	No data	No data	No data
211.0	S	London	No data	No data	No data	No data	No data
220.0	N	London	No data	No data	No data	No data	No data
230.0	N	London	No data	No data	No data	No data	No data
243.0	S	London	No data	No data	No data	No data	No data
243.0	S	London	No data	No data	No data	No data	No data

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



# 7 Railways and Tunnels Map







# 7 Railways and Tunnels

### 7.1 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?

Yes

Distance (m)	Direction	Line
6 S		London Underground - District Line

The approximate depth value for the nearest London Underground line given in this dataset has been extrapolated from published depths of tube lines at station platforms, and assume a constant gradient between stations. Using this method, topographical variation has resulted in some parts of the line having associated depth values either shallower or deeper than the real-world situation. Depth values are for indication only and should not be relied upon for any calculation or technical purpose and are in no way a substitute for a professional survey.

Line

London Underground Line: District Line Depth: Ombgl Track Type: Surface Track

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.



## 7.2 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?

Yes

Have any historical railway or tunnel features been identified within 250m of the study site boundary?

Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	0	On Site	550532 185111	Railway Sidings	1955
2	0	On Site	550607 185143	Railway Sidings	1967
8C	0	On Site	550618 185141	Railway Sidings	1961
9	0	On Site	550669 185162	Railway Sidings	1962
10C	0	On Site	550616 185135	Railway Sidings	1939
11	1	S	550842 185202	Railway Sidings	1962
12	17	W	550435 185093	Railway Sidings	1962
13	54	S	550421 185033	Railway Sidings	1939
14D	69	W	n/a	Railway	1939
15D	93	SW	n/a	Railway	1897
3E	138	SW	550354 185027	Railway Sidings	1921
4B	139	SW	550060 184942	Railway Sidings	1921
5A	143	SW	550120 184956	Railway Sidings	1938
16E	152	SW	550345 185030	Railway Sidings	1920
6A	247	SW	550147 184947	Railway Sidings	1967
7B	248	SW	550159 184962	Railway Sidings	1955

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

# 7.3 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.

Note: 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.



## 7.4 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?

Yes

Distance (m)	Direction	Name	Туре
8	S	London, Tilbury & Southend Railway	Rail
11	S	Not given	Multi Track
12	S	London, Tilbury & Southend Railway	Rail
28	SW	Not given	Multi Track
28	SW	Not given	Multi Track

Note: 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.

## 7.5 Railway Projects

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

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 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 Report**.

# **Contact Details**



GroundSure Helpline Telephone: 08444 159 000 info@groundsure.com



#### **B**ritish Geological Survey Enquiries

Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276.

Email:enquiries@bgs.ac.uk Web:www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



#### **British Gypsum**

British Gypsum Ltd East Leake Loughborough Leicestershire LE12 6HX



#### The Coal Authority

200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5 www.coal.gov.uk



#### **Public Health England**

Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG

 $\label{lem:https://www.gov.uk/government/organisations/public-health-england } Email: enquiries@phe.gov.uk$ 

Main switchboard: 020 7654 8000



#### Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettel Lane Brierley Hill, West Midlands DY5 3LH Tel: +44 (0) 1384 262 000 Email:enquiries.gs@jpb.co.uk Website: www.jpb.co.uk



#### Ordnance Survey

Adanac Drive, Southampton SO16 0AS

Tel: 08456 050505

Website: http://www.ordnancesurvey.co.uk/





#### Getmapping PLC

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

Website:http://www1.getmapping.com/



### Peter Brett Associates

Caversham Bridge House
Waterman Place
Reading
Berkshire RG1 8DN
Tel: +44 (0)118 950 0761 E-mail:reading@pba.co.uk
Website:http://www.peterbrett.com/home



Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. 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

#### 1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

- (i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and
- (ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

# 2 Scope of Services, terms and conditions, requests for insurance and quotations

 $2.1\,Ground Sure\,agrees\,to\,provide\,the\,Services\,in\,accordance\,with\,the\,Contract.$ 

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

#### 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

### 4 Reliance

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

 $\mbox{(v)}$  the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

## 5 Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

#### 6 Intellectual Property and Confidentiality

6.1 Subject to

full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

- $6.4\ {\rm The}\ {\rm Client}\ {\rm shall},$  and shall procure that any recipients of the GroundSure Materials shall:
- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,
- 6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.
- 6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### 7. Liability: Particular Attention Should Be Paid To This Clause

- 7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:
  - (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors:
  - (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.
- 7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.
- 7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.
- 7.4 GroundSure shall not be liable for
  - (i) loss of profits;
  - (ii) loss of business;
  - (iii) depletion of goodwill and/or similar losses;
  - (iv) loss of anticipated savings;
  - (v) loss of goods;
  - (vi) loss of contract;
  - (vii) loss of use;
  - (viii) loss or corruption of data or information;
  - (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- $\mbox{(xiii)} \qquad \mbox{loss or damage to a computer, software, modem, telephone or other property; and} \\$
- (xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.
- 7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.
- 7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### 8 GroundSure's right to suspend or terminate

- 8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.
- 8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:
  - (i) the Client fails to pay any sum due to GroundSure within 30

days of the Payment Date; or

- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

- 9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.
- 9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:
- (i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and
  - (ii) the Reports and/or Mapping provided under this Contract are (a) supplied to the Client's specification(s) and in any event
    - (b) by their nature cannot be returned.

### 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

- (i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and
- (ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

### 11 Anti-Bribery

11.1 The Client warrants that it shall:

- (i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010:
- (ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and
- (iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.
- 11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 Conoral

- 12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.
- 12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.
- 12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.
- 12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.
- 12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.
- 12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
- 12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:
- (i) the Client or Beneficiary's failure to provide facilities, access or information:
  - (ii) fire, storm, flood, tempest or epidemic;
  - (iii) Acts of God or the public enemy;
  - (iv) riot, civil commotion or war;
  - (v) strikes, labour disputes or industrial action;
  - (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
  - (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control. In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.
- 12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

#### © GroundSure Limited June 2013