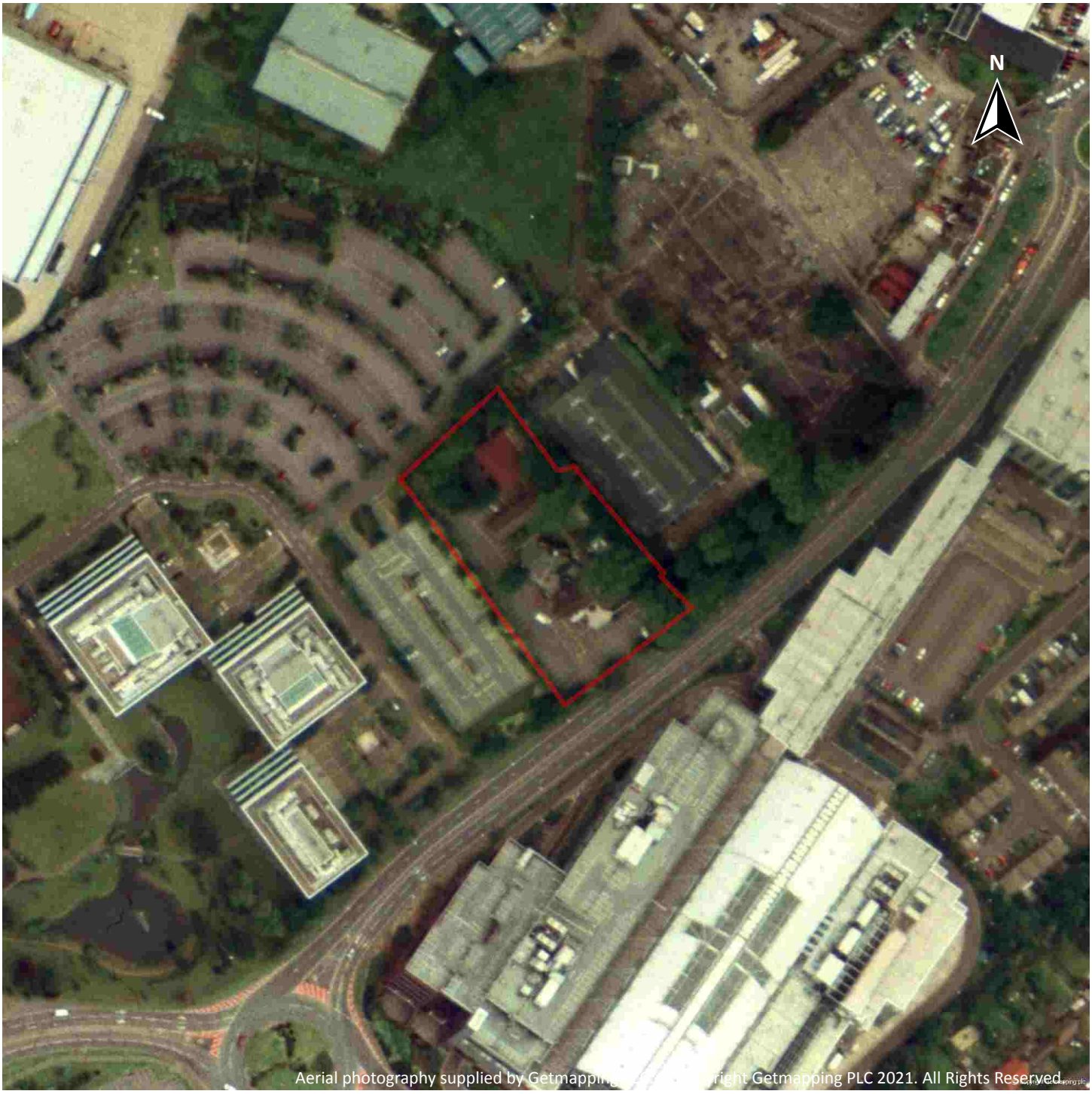
Recent site history - 2005 aerial photograph

Capture Date: 29/08/2005

Site Area: 0.64ha

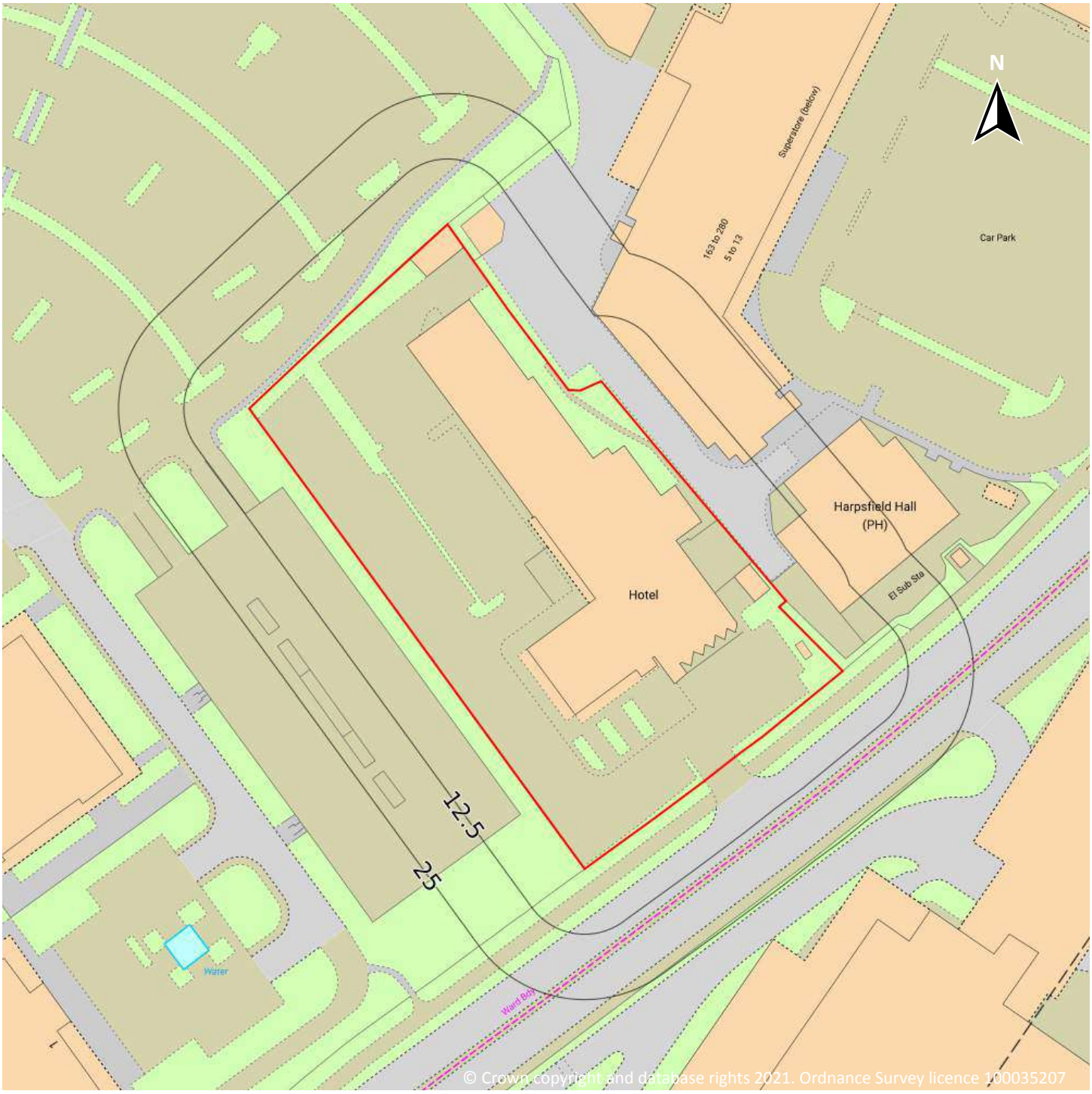
Recent site history - 2000 aerial photograph



Capture Date: 10/06/2000

Site Area: 0.64ha

OS MasterMap site plan



Site Area: 0.64ha

1 Past land use

Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	17

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Aerodrome**	**1988**	**2070736**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Aerodrome**	**1971 - 1973**	**2086077**
C	63m SE	Tunnel	1988	2062133
6	207m NE	Unspecified Commercial/Industrial	1938	2058212
8	214m SW	Cuttings	1988	2061248
9	216m W	Aircraft Works	1988	2047583
C	264m NE	Pumping Station	1938	2045303
H	339m NE	Aircraft Works	1973	2076944
H	339m NE	Aircraft Works	1988	2087740
J	387m NE	Unspecified Tank	1973	2043874
K	396m E	Railway Sidings	1938	2111555
K	399m E	Railway Sidings	1896	2078779
K	399m E	Railway Sidings	1922	2100163
K	409m E	Cuttings	1971	2061246
K	431m E	Railway Building	1971	2073179
K	432m E	Railway Building	1938	2122601
14	485m W	Unspecified Works	1988	2046164

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**6**

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

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

ID	Location	Land use	Dates present	Group ID
2	64m NE	Tanks	1960 - 1992	349928
7	210m NW	Unspecified Tank	1976 - 1993	355516

ID	Location	Land use	Dates present	Group ID
G	247m N	Tanks	1976 - 1993	358653
G	248m N	Tanks	1976	354361
G	248m N	Tanks	1988	355845
F	276m NE	Unspecified Tank	1986 - 1992	355669

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**17**

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

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

ID	Location	Land use	Dates present	Group ID
1	30m NE	Electricity Substation	1992	224656
3	77m SW	Electricity Substation	1976 - 1988	232780
D	154m E	Electricity Substation	1973	235760
D	156m E	Electricity Substation	1992	234007
E	192m NE	Electricity Substation	1969 - 1986	238901
5	206m S	Electricity Substation	1992	237208
E	218m NE	Electricity Substation	1970	224660
F	281m NE	Electricity Substation	1992	224661
I	340m N	Electricity Substation	1969	233434
I	341m N	Electricity Substation	1970 - 1986	230697
10	355m SW	Electricity Substation	1976 - 1993	229228
11	371m SE	Electricity Substation	1973 - 1992	229503
L	411m E	Electricity Substation	1969 - 1992	232579
L	420m E	Electricity Substation	1970	235097

ID	Location	Land use	Dates present	Group ID
J	438m NE	Electricity Substation	1969 - 1986	239907
12	469m N	Electricity Substation	1992	224664
13	479m NE	Electricity Substation	1986 - 1992	233988

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	12

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

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

ID	Location	Land use	Dates present	Group ID
B	30m SE	Garage	1970	71032
B	38m E	Garage	1986	69968
B	40m SE	Garage	1973	71215
B	40m SE	Garage	1961	70657
B	45m E	Garage	1960 - 1969	72735
B	45m E	Garage	1970	70036
4	133m NE	Garage	1960	70725
F	222m NE	Garage	1988 - 1992	71396

ID	Location	Land use	Dates present	Group ID
F	228m NE	Garage	1970 - 1986	71464
F	228m NE	Garage	1969	70220
C	270m NE	Garage	1970	69827
C	285m NE	Garage	1960 - 1969	71629

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m	**0**

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

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

2 Past land use - un-grouped

2.1 Historical industrial land uses

Records within 500m	19

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Aerodrome**	**1988**	**2070736**
A	**On site**	**Aerodrome**	**1973**	**2086077**
A	**On site**	**Aerodrome**	**1971**	**2086077**

ID	Location	Land Use	Date	Group ID
C	63m SE	Tunnel	1988	2062133
3	207m NE	Unspecified Commercial/Industrial	1938	2058212
4	214m SW	Cuttings	1988	2061248
5	216m W	Aircraft Works	1988	2047583
C	264m NE	Pumping Station	1938	2045303
L	339m NE	Aircraft Works	1988	2087740
L	339m NE	Aircraft Works	1973	2076944
P	387m NE	Unspecified Tank	1973	2043874
Q	396m E	Railway Sidings	1938	2111555
Q	399m E	Railway Sidings	1922	2100163
Q	399m E	Railway Sidings	1896	2078779
Q	409m E	Cuttings	1971	2061246
Q	413m E	Railway Sidings	1922	2100163
Q	431m E	Railway Building	1971	2073179
Q	432m E	Railway Building	1938	2122601
7	485m W	Unspecified Works	1988	2046164

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**23**

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
D	64m NE	Tanks	1969	349928
D	64m NE	Tanks	1960	349928
D	64m NE	Tanks	1986	349928
D	64m NE	Tanks	1988	349928

ID	Location	Land Use	Date	Group ID
D	64m NE	Tanks	1988	349928
D	64m NE	Tanks	1988	349928
D	64m NE	Tanks	1990	349928
D	64m NE	Tanks	1992	349928
D	65m NE	Tanks	1970	349928
I	210m NW	Unspecified Tank	1988	355516
I	210m NW	Unspecified Tank	1988	355516
I	210m NW	Unspecified Tank	1976	355516
I	211m NW	Unspecified Tank	1993	355516
K	247m N	Tanks	1976	358653
K	248m N	Tanks	1993	358653
K	248m N	Tanks	1988	355845
K	248m N	Tanks	1976	354361
J	276m NE	Unspecified Tank	1986	355669
J	276m NE	Unspecified Tank	1988	355669
J	276m NE	Unspecified Tank	1988	355669
J	276m NE	Unspecified Tank	1988	355669
J	276m NE	Unspecified Tank	1990	355669
J	276m NE	Unspecified Tank	1992	355669

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**39**

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
1	30m NE	Electricity Substation	1992	224656

ID	Location	Land Use	Date	Group ID
E	77m SW	Electricity Substation	1976	232780
E	78m SW	Electricity Substation	1988	232780
F	154m E	Electricity Substation	1973	235760
F	156m E	Electricity Substation	1992	234007
F	158m E	Electricity Substation	1992	234007
G	192m NE	Electricity Substation	1969	238901
G	192m NE	Electricity Substation	1986	238901
H	206m S	Electricity Substation	1992	237208
H	206m S	Electricity Substation	1992	237208
G	218m NE	Electricity Substation	1970	224660
J	281m NE	Electricity Substation	1992	224661
M	340m N	Electricity Substation	1969	233434
M	341m N	Electricity Substation	1986	230697
M	341m N	Electricity Substation	1970	230697
N	355m SW	Electricity Substation	1976	229228
N	355m SW	Electricity Substation	1993	229228
N	356m SW	Electricity Substation	1992	229228
O	371m SE	Electricity Substation	1992	229503
O	372m SE	Electricity Substation	1973	229503
O	372m SE	Electricity Substation	1992	229503
R	411m E	Electricity Substation	1986	232579
R	411m E	Electricity Substation	1988	232579
R	411m E	Electricity Substation	1988	232579
R	411m E	Electricity Substation	1988	232579
R	411m E	Electricity Substation	1990	232579
R	411m E	Electricity Substation	1992	232579
R	412m E	Electricity Substation	1969	232579
R	420m E	Electricity Substation	1970	235097

ID	Location	Land Use	Date	Group ID
P	438m NE	Electricity Substation	1986	239907
P	440m NE	Electricity Substation	1969	239907
P	440m NE	Electricity Substation	1970	239907
6	469m N	Electricity Substation	1992	224664
S	479m NE	Electricity Substation	1986	233988
S	479m NE	Electricity Substation	1988	233988
S	479m NE	Electricity Substation	1988	233988
S	479m NE	Electricity Substation	1988	233988
S	479m NE	Electricity Substation	1990	233988
S	479m NE	Electricity Substation	1992	233988

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**19**

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

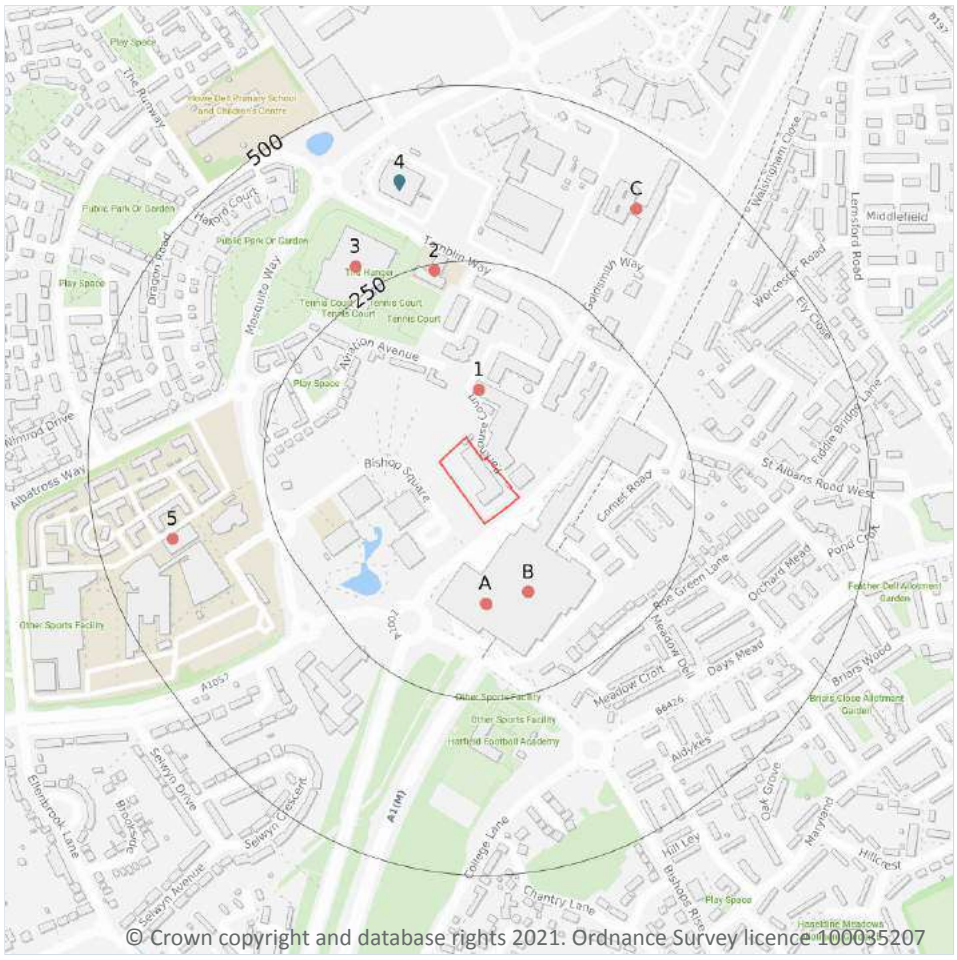
Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
B	30m SE	Garage	1970	71032
B	38m E	Garage	1986	69968
B	40m SE	Garage	1973	71215

ID	Location	Land Use	Date	Group ID
B	40m SE	Garage	1961	70657
B	45m E	Garage	1969	72735
B	45m E	Garage	1960	72735
B	45m E	Garage	1970	70036
2	133m NE	Garage	1960	70725
J	222m NE	Garage	1988	71396
J	222m NE	Garage	1988	71396
J	222m NE	Garage	1988	71396
J	222m NE	Garage	1990	71396
J	222m NE	Garage	1992	71396
J	228m NE	Garage	1986	71464
J	228m NE	Garage	1969	70220
J	228m NE	Garage	1970	71464
C	270m NE	Garage	1970	69827
C	285m NE	Garage	1969	71629
C	285m NE	Garage	1960	71629

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Licensed waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 25**

ID	Location	Details		
4	374m N	Site Name: Mobile Treatment Site Address: Mobile Plan Correspondence Address: -	Type of Site: Mobile Plant Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: THR011 EPR reference: EA/EPR/FP3698SW/V003 Operator: Affinity Water Limited Waste Management licence No: 100851 Annual Tonnage: 0	Issue Date: 19/01/2009 Effective Date: - Modified: 17/12/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified

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

3.7 Waste exemptions

Records within 500m	11

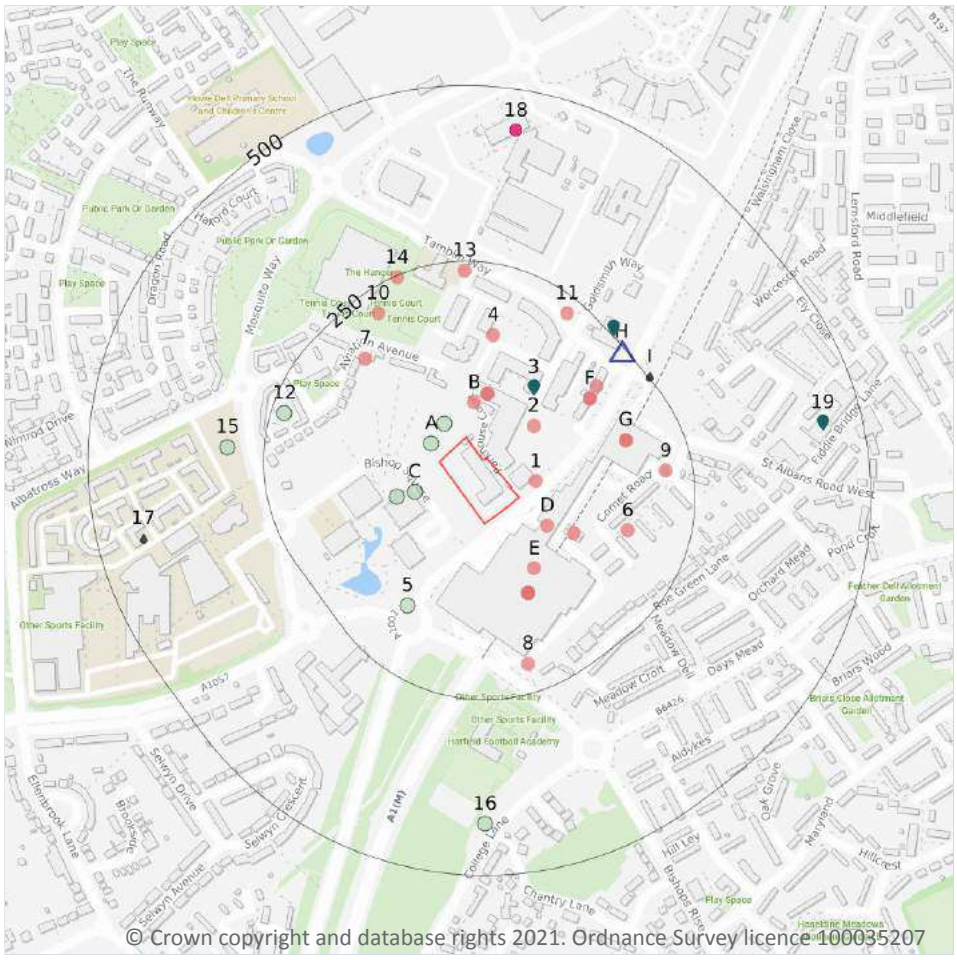
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 25**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	69m N	5, PARKHOUSE COURT, HATFIELD, AL10 9RQ	WEX190770	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	114m S	The Galleria Gallaria Comet Way HATFIELD Hertfordshire AL10 0XR	EPR/HF0902HA/A001	Treating waste exemption	Non-Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
A	115m S	The Galleria, Commet Way, Hertfordshire, Hatfield, AL10 0XR	WEX139952	Treating waste exemption	Not on a farm	Sorting mixed waste
A	115m S	The Galleria, Commet Way, Hertfordshire, Hatfield, AL10 0XR	WEX139952	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	115m SE	THE GALLERIA, COMET WAY, HATFIELD, AL10 0XR	WEX277692	Treating waste exemption	Not on a farm	Sorting mixed waste
B	115m SE	THE GALLERIA, COMET WAY, HATFIELD, AL10 0XR	WEX277692	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
2	241m N	TAMBLIN WAY, HATFIELD, AL10 9EZ	WEX233377	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
3	289m NW	Hatfield Residential and Nursing Home, Tamblin Way, Hatfield, AL10 9AX	WEX088649	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
5	396m W	DE HAVILLAND CAMPUS, MOSQUITO WAY, HATFIELD, AL10 9EU	WEX155325	Using waste exemption	Not on a Farm	Use of waste in construction
C	404m NE	HATFIELD POLICE STATION, COMET WAY, HATFIELD, AL10 9SJ	WEX164762	Treating waste exemption	Not on a Farm	Sorting and de-naturing of controlled drugs for disposal
C	404m NE	HATFIELD POLICE STATION, COMET WAY, HATFIELD, AL10 9SJ	WEX175518	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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

4 Current industrial land use



Site Outline

Search buffers in metres (m)

Recent industrial land uses

Current or recent petrol stations

Licensed pollutant release (Part A(2)/B)

Radioactive Substance Authorisations

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	**25**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Company	Address	Activity	Category
1	32m NE	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities
B	50m N	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities
D	57m SE	Enterprise Rent-A-Car	Unit 132 The Galleria Shopping, Comet Way, Hatfield, Hertfordshire, AL10 0XR	Vehicle Hire and Rental	Hire Services

ID	Location	Company	Address	Activity	Category
B	68m NE	Easypump Conrete Ltd	165, Parkhouse Court, Hatfield, Hertfordshire, AL10 9RD	Construction Completion Services	Construction Services
B	68m NE	3 Counties Concrete UK	165, Parkhouse Court, Hatfield, Hertfordshire, AL10 9RD	Concrete Products	Industrial Products
2	80m NE	Tank	Hertfordshire, AL10	Tanks (Generic)	Industrial Features
D	92m SE	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities
E	93m SE	Bedeck	The Galleria Centre, Comet Way, Hatfield, Hertfordshire, AL10 0XR	Beds and Bedding	Consumer Products
E	115m SE	The Car Wash Co	The Galleria, Comet Way, Hatfield, Hertfordshire, AL10 0XR	Vehicle Cleaning Services	Personal, Consumer and Other Services
E	115m SE	The Car Wash Company	The Galleria, Comet Way, Town Centre, Hatfield, Hertfordshire, AL10 0XR	Vehicle Cleaning Services	Personal, Consumer and Other Services
E	115m SE	Enterprise Rent-A-Car	132, The Galleria, Comet Way, Town Centre, Hatfield, Hertfordshire, AL10 0XR	Vehicle Hire and Rental	Hire Services
4	150m N	Gas Governor Station	Hertfordshire, AL10	Gas Features	Infrastructure and Facilities
6	161m E	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities
F	167m NE	Herts Signs & Graphics Ltd	6 Harpsfield Broadway, Comet Way, Hatfield, Hertfordshire, AL10 9TF	Signs	Industrial Products
F	167m NE	Herts Signs	6 Harpsfield Broadway, Comet Way, Hatfield, Hertfordshire, AL10 9TF	Published Goods	Industrial Products
G	172m NE	Villeroy & Boch	58 The Galleria, Comet Way, Hatfield, Hertfordshire, AL10 0XX	China and Glassware	Consumer Products
G	172m NE	Tempur	Unit 55 The Galleria, Comet Way, Hatfield, Hertfordshire, AL10 0XX	Beds and Bedding	Consumer Products
7	179m NW	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities
F	185m NE	Murray's Direct	9A Harpsfield Broadway, Comet Way, Hatfield, Hertfordshire, AL10 9TF	Vehicle Parts and Accessories	Motoring
8	208m S	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
9	212m E	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities
10	216m NW	Tank	Hertfordshire, AL10	Tanks (Generic)	Industrial Features
11	227m NE	Gantry	Hertfordshire, AL10	Travelling Cranes and Gantries	Industrial Features
13	237m N	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities
14	247m NW	Electricity Sub Station	Hertfordshire, AL10	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Company	Address	LPG	Status
H	244m NE	OBSOLETE	Harpsfield Broadway, Hatfield, Hertfordshire, AL10 9TF	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

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

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	3

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Address	Details	
3	119m NE	Charlies Cleaning,Charlies Cleaning Ltd, 8a Park House, Court, Comet Square, Hatfield, Hertfordshire, AL10 9RQ	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
H	258m NE	Waters & Son Ltd, Welwyn Garden City, Hertfordshire, AL7 4SS	Process: Petrol Vapour Recovery Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
19	444m E	Garden City Coachworks, Fiddlebridge Lane, Hatfield, Hertfordshire, AL10 9SP	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	1

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Address	Details	
18	441m N	European Knowledge Centre (R&D), Hatfield, AL10 9SN	Operator: EISAI Limited Type: - Permission number: HP3693ST Date of approval: -	Effective from: 20/09/2010 Last date of update: 01/01/2020 Status: Issued

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

4.13 Licensed Discharges to controlled waters

Records within 500m **3**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Address	Details	
I	251m NE	Stonehouse, Hatfield, Stonehouse, Hatfield	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.2003 Permit Version: 1 Receiving Water: ELLEN BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: 02/11/1989 Effective Date: 02/11/1989 Revocation Date: 02/09/2010
I	251m NE	Stonehouse, Hatfield, Stonehouse, Hatfield	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.2003 Permit Version: 2 Receiving Water: Ellen Brook	Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 19/08/2014
17	435m W	BRITISH AEROSPACE PREMISES, COMET W, BRITISH AEROSPACE PREMISES COME, T WAY HATFIELD HERTFORDSHIRE	Effluent Type: MISCELLANEOUS DISCHARGES - UNSPECIFIED Permit Number: CNTM.0982 Permit Version: 1 Receiving Water: ELLEN BROOK	Status: REVOKED - UNSPECIFIED Issue date: 22/07/1993 Effective Date: 22/07/1993 Revocation Date: 07/12/1994

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m **0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

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

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	8

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Details	
A	26m NW	Incident Date: 24/08/2011 Incident Identification: 916702 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
A	35m NW	Incident Date: 03/08/2011 Incident Identification: 909800 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)

ID	Location	Details	
C	53m SW	Incident Date: 13/08/2002 Incident Identification: 99825 Pollutant: Organic Chemicals/Products Pollutant Description: Adhesives	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	77m SW	Incident Date: 30/08/2002 Incident Identification: 104207 Pollutant: Organic Chemicals/Products Pollutant Description: Adhesives	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
5	159m SW	Incident Date: 02/01/2003 Incident Identification: 128884 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
12	231m W	Incident Date: 20/02/2003 Incident Identification: 138762 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
15	302m W	Incident Date: 14/01/2002 Incident Identification: 52378 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
16	426m S	Incident Date: 23/04/2003 Incident Identification: 153121 Pollutant: Inert Materials and Wastes Pollutant Description: Rocks and Gravel	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	**0**

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

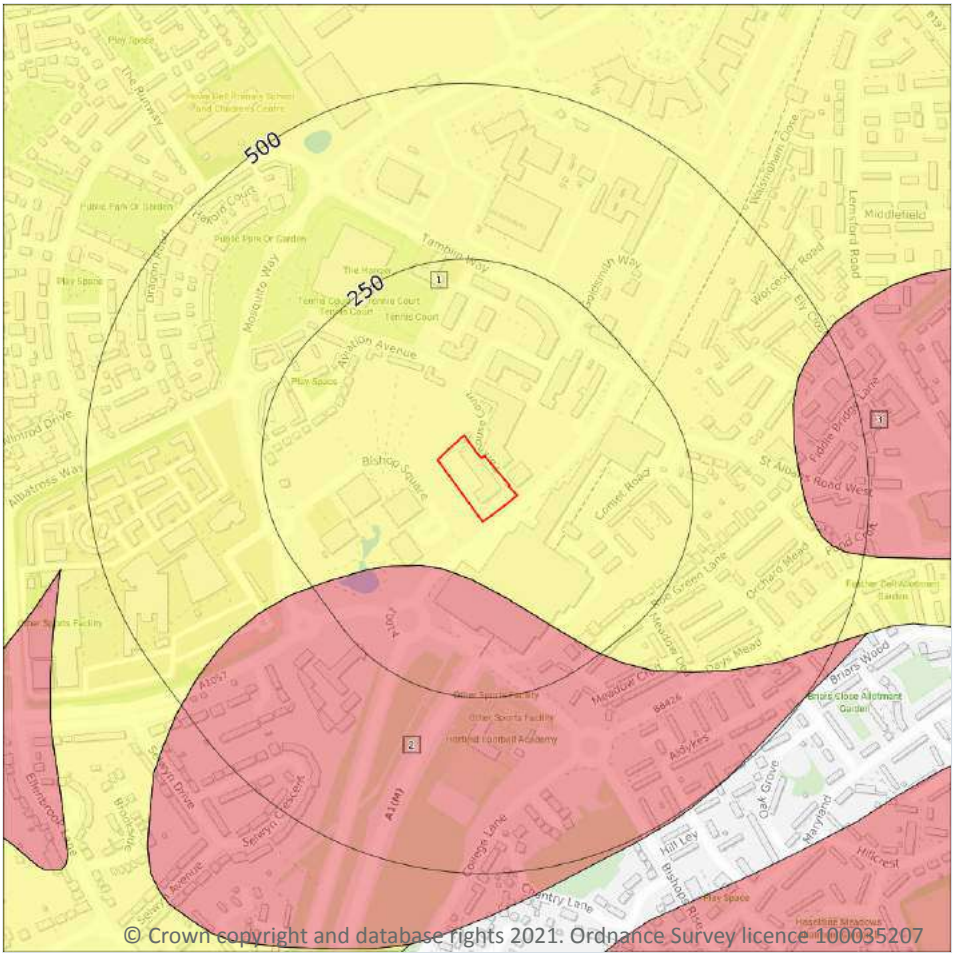
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	3

Aquifer status of groundwater held within superficial geology.

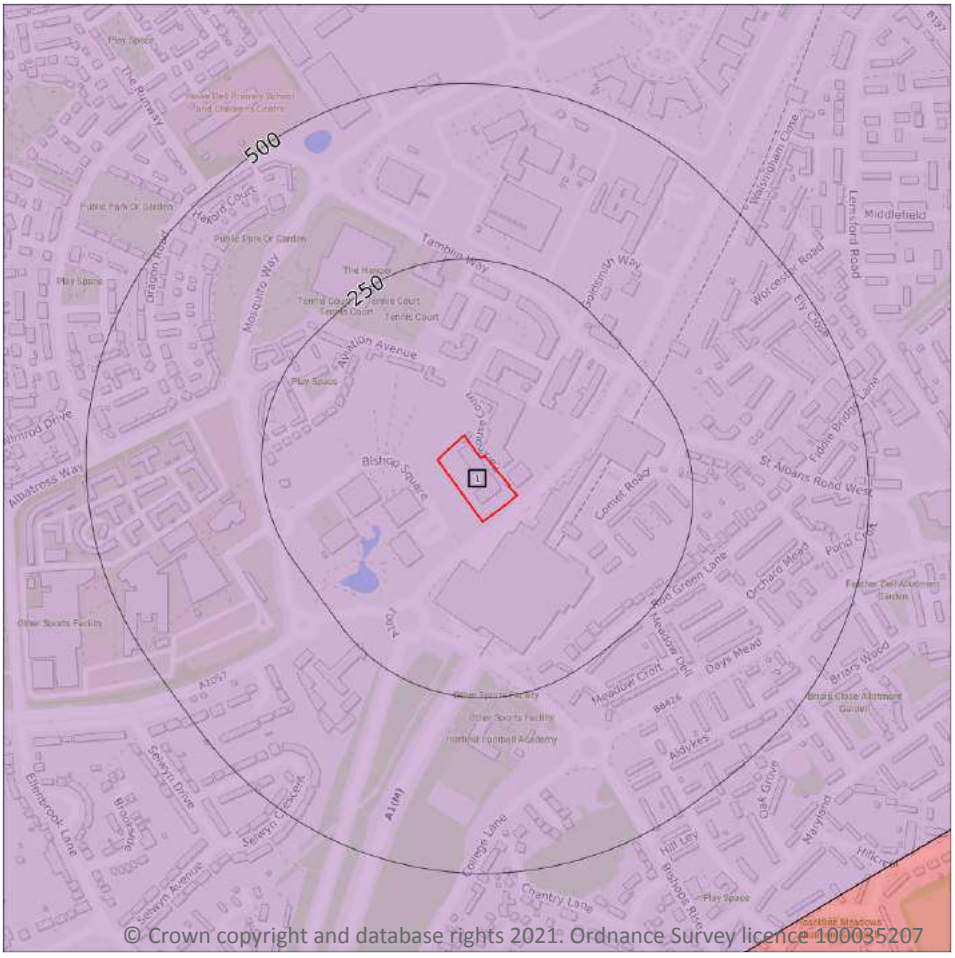
Features are displayed on the Hydrogeology map on **page 37**

ID	Location	Designation	Description
1	**On site**	**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**
2	83m 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

ID	Location	Designation	Description
3	401m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m	1

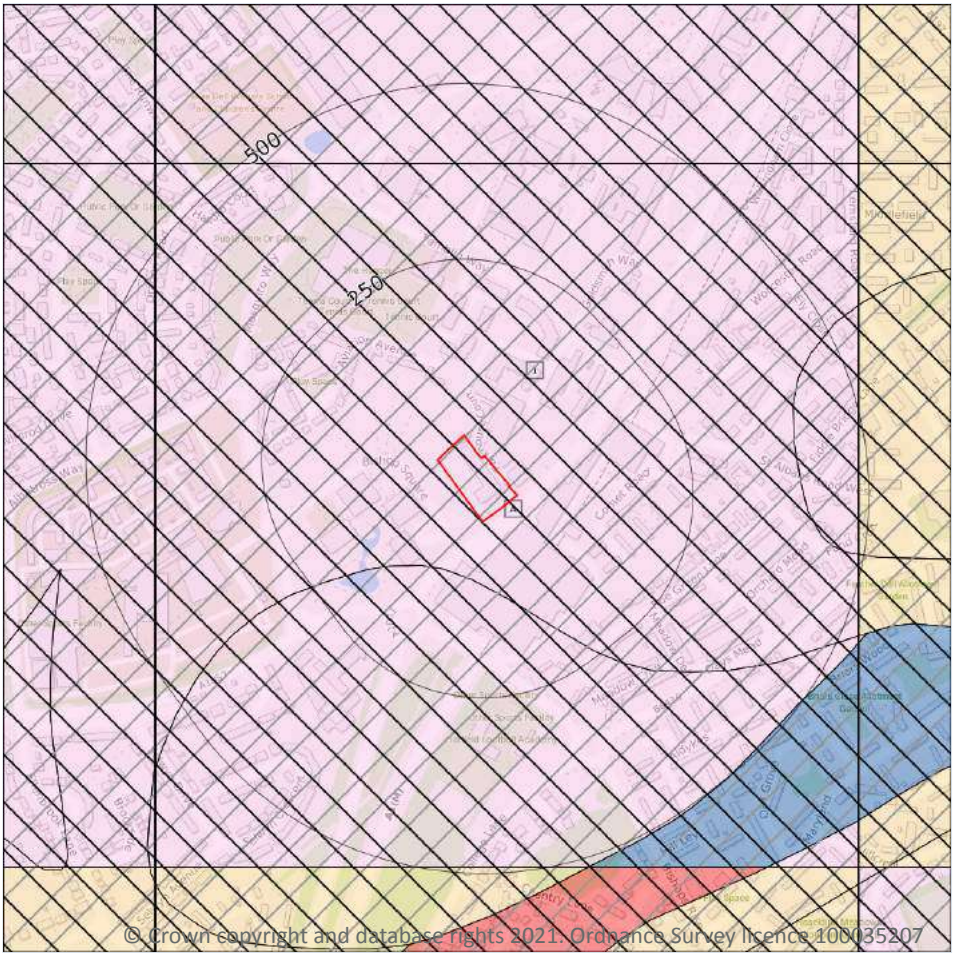
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 39**

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

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 40**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	**Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: 40-70% Dilution value: <300mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures**

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**1**

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
A	**Very significant soluble rocks are likely to be present with a high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or subsurface water flow.**	**0.0%**

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

5.5 Groundwater vulnerability- local information

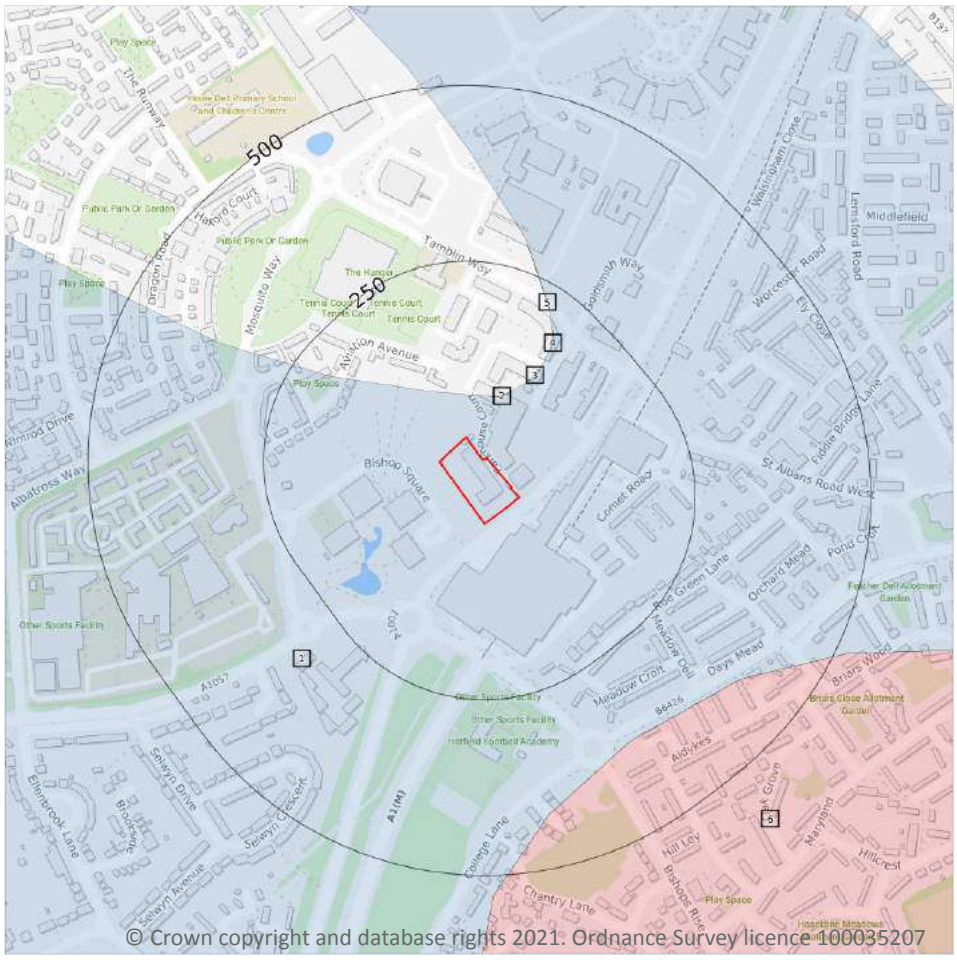
Records on site	**1**

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

ID	Summary	Additional information
A	**Known fissure flow in area**	**Vale of St Albans fissure flow**

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

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

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

5.6 Groundwater abstractions

Records within 2000m	35

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 42**

ID	Location	Details	
-	937m W	Status: Historical Licence No: TH/039/0028/051 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT C Data Type: Point Name: Brett Aggregates Limited Easting: 520476 Northing: 208428	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	937m W	Status: Historical Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT C Data Type: Point Name: Brett Aggregates Limited Easting: 520476 Northing: 208428	Annual Volume (m^3): 521632 Max Daily Volume (m^3): 2387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	937m SE	Status: Historical Licence No: TH/038/0001/001 Details: General Use Relating To Secondary Category (Low Loss) Direct Source: THAMES GROUNDWATER Point: ROE GREEN, BISHOP'S RISE - BOREHOLE A Data Type: Point Name: Affinity Water Limited Easting: 522012 Northing: 207729	Annual Volume (m^3): 3,317,850 Max Daily Volume (m^3): 9090 Original Application No: - Original Start Date: 01/04/2010 Expiry Date: 31/08/2019 Issue No: 2 Version Start Date: 01/05/2014 Version End Date: -
-	937m W	Status: Active Licence No: TH/039/0028/051 Details: Dewatering Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT A Data Type: Poly4 Name: Brett Aggregates Limited Easting: 519954 Northing: 208765	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -

ID	Location	Details	
-	937m SE	Status: Active Licence No: TH/038/0001/001/R01 Details: Pollution Remediation Direct Source: THAMES GROUNDWATER Point: ROE GREEN, BISHOP'S RISE - BOREHOLE A Data Type: Point Name: Affinity Water Limited Easting: 522012 Northing: 207729	Annual Volume (m^3): 3,317,850 Max Daily Volume (m^3): 9,090 Original Application No: - Original Start Date: 09/09/2019 Expiry Date: 31/03/2030 Issue No: 1 Version Start Date: 09/09/2019 Version End Date: -
-	937m SE	Status: Active Licence No: 29/38/01/0061 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ROE GREEN, BISHOP'S RISE - BOREHOLE A Data Type: Point Name: Affinity Water Limited Easting: 522012 Northing: 207729	Annual Volume (m^3): 3,318,649 Max Daily Volume (m^3): 9,092.19 Original Application No: - Original Start Date: 20/09/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/05/2014 Version End Date: -
-	937m W	Status: Active Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT A Data Type: Poly4 Name: Brett Aggregates Limited Easting: 519954 Northing: 208765	Annual Volume (m^3): 521,632 Max Daily Volume (m^3): 2,387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	937m SE	Status: Historical Licence No: TH/038/0001/001 Details: General Use Relating To Secondary Category (Low Loss) Direct Source: THAMES GROUNDWATER Point: ROE GREEN, BISHOPS RISE - BOREHOLE B Data Type: Point Name: Affinity Water Limited Easting: 522015 Northing: 207731	Annual Volume (m^3): 3,317,850 Max Daily Volume (m^3): 9090 Original Application No: - Original Start Date: 01/04/2010 Expiry Date: 31/08/2019 Issue No: 2 Version Start Date: 01/05/2014 Version End Date: -
-	937m SE	Status: Active Licence No: TH/038/0001/001/R01 Details: Pollution Remediation Direct Source: THAMES GROUNDWATER Point: ROE GREEN, BISHOPS RISE - BOREHOLE B Data Type: Point Name: Affinity Water Limited Easting: 522015 Northing: 207731	Annual Volume (m^3): 3,317,850 Max Daily Volume (m^3): 9,090 Original Application No: - Original Start Date: 09/09/2019 Expiry Date: 31/03/2030 Issue No: 1 Version Start Date: 09/09/2019 Version End Date: -

ID	Location	Details	
-	954m SE	Status: Historical Licence No: 29/38/01/0105 Details: General Use Relating To Secondary Category (Low Loss) Direct Source: THAMES GROUNDWATER Point: ROE GREEN - BISHOP'S RISE Data Type: Point Name: Veolia Water Central Limited Easting: 522000 Northing: 207700	Annual Volume (m^3): 3,317,850 Max Daily Volume (m^3): 9090 Original Application No: - Original Start Date: 08/02/2007 Expiry Date: 31/03/2010 Issue No: 2 Version Start Date: 20/07/2009 Version End Date: -
-	954m SE	Status: Historical Licence No: 29/38/01/0061 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ROE GREEN - BISHOP'S RISE Data Type: Point Name: Veolia Water Central Limited Easting: 522000 Northing: 207700	Annual Volume (m^3): 3,318,649 Max Daily Volume (m^3): 9092.19 Original Application No: - Original Start Date: 20/09/1966 Expiry Date: - Issue No: 101 Version Start Date: 20/07/2009 Version End Date: -
-	1112m W	Status: Historical Licence No: TH/039/0028/051 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT D Data Type: Point Name: Brett Aggregates Limited Easting: 520364 Northing: 208178	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1112m W	Status: Historical Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT D Data Type: Point Name: Brett Aggregates Limited Easting: 520364 Northing: 208178	Annual Volume (m^3): 521632 Max Daily Volume (m^3): 2387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -

ID	Location	Details	
-	1112m W	Status: Active Licence No: TH/039/0028/051 Details: Dewatering Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT B Data Type: Poly4 Name: Brett Aggregates Limited Easting: 519954 Northing: 208765	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1112m W	Status: Active Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT B Data Type: Poly4 Name: Brett Aggregates Limited Easting: 519954 Northing: 208765	Annual Volume (m^3): 521,632 Max Daily Volume (m^3): 2,387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1128m N	Status: Historical Licence No: 28/39/28/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE B AT COMET WAY, HATFIELD Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521100 Northing: 209690	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -
-	1128m N	Status: Historical Licence No: 28/39/28/0015 Details: Non-Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: BOREHOLE B AT COMET WAY, HATFIELD Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521100 Northing: 209690	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -
-	1128m N	Status: Historical Licence No: 28/39/28/0015 Details: Process water Direct Source: THAMES GROUNDWATER Point: BOREHOLE B AT COMET WAY, HATFIELD Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521100 Northing: 209690	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -

ID	Location	Details	
-	1128m N	Status: Historical Licence No: 28/39/28/0015 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE B AT COMET WAY, HATFIELD Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521100 Northing: 209690	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -
-	1179m N	Status: Historical Licence No: 28/39/28/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HATFIELD, HERTS Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521350 Northing: 209790	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -
-	1179m N	Status: Historical Licence No: 28/39/28/0015 Details: Process water Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HATFIELD, HERTS Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521350 Northing: 209790	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -
-	1179m N	Status: Historical Licence No: 28/39/28/0015 Details: Non-Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HATFIELD, HERTS Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521350 Northing: 209790	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -
-	1179m N	Status: Historical Licence No: 28/39/28/0015 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HATFIELD, HERTS Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521350 Northing: 209790	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -

ID	Location	Details	
-	1179m N	Status: Active Licence No: 28/39/28/0015 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: HATFIELD BUSINESS PARK, HATFIELD, HERTS -BOREHOLE Data Type: Point Name: ARLINGTON BUSINESS PARKS GP LTD Easting: 521350 Northing: 209790	Annual Volume (m^3): 83,000 Max Daily Volume (m^3): 2,880 Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 102 Version Start Date: 31/03/2014 Version End Date: -
-	1179m N	Status: Active Licence No: 28/39/28/0015 Details: Make-Up Or Top Up Water Direct Source: THAMES GROUNDWATER Point: HATFIELD BUSINESS PARK, HATFIELD, HERTS -BOREHOLE Data Type: Point Name: ARLINGTON BUSINESS PARKS GP LTD Easting: 521350 Northing: 209790	Annual Volume (m^3): 83,000 Max Daily Volume (m^3): 2,880 Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 102 Version Start Date: 31/03/2014 Version End Date: -
-	1241m W	Status: Historical Licence No: TH/039/0028/051 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT B Data Type: Point Name: Brett Aggregates Limited Easting: 520170 Northing: 208737	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1241m W	Status: Historical Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT B Data Type: Point Name: Brett Aggregates Limited Easting: 520170 Northing: 208737	Annual Volume (m^3): 521632 Max Daily Volume (m^3): 2387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -

ID	Location	Details	
-	1459m W	Status: Historical Licence No: TH/039/0028/051 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT A Data Type: Point Name: Brett Aggregates Limited Easting: 519954 Northing: 208765	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1459m W	Status: Historical Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS, POINT A Data Type: Point Name: Brett Aggregates Limited Easting: 519954 Northing: 208765	Annual Volume (m^3): 521632 Max Daily Volume (m^3): 2387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1811m SW	Status: Historical Licence No: TH/039/0028/051 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT E Data Type: Point Name: Brett Aggregates Limited Easting: 519755 Northing: 207824	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1811m SW	Status: Historical Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT E Data Type: Point Name: Brett Aggregates Limited Easting: 519755 Northing: 207824	Annual Volume (m^3): 521632 Max Daily Volume (m^3): 2387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -

ID	Location	Details	
-	1830m W	Status: Active Licence No: 28/39/28/0598/R01 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD QUARRY - SOUTHERN LAGOON Data Type: Line Name: CEMEX UK MATERIALS LIMITED Easting: 519680 Northing: 209200	Annual Volume (m^3): 600,000 Max Daily Volume (m^3): 3,200 Original Application No: - Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 3 Version Start Date: 01/04/2019 Version End Date: -
-	1835m NW	Status: Active Licence No: TH/039/0028/050 Details: Dewatering Direct Source: THAMES GROUNDWATER Point: HATFIELD QUARRY - CUTFIELD NORTH LAKE Data Type: Poly4 Name: CEMEX UK MATERIALS LIMITED Easting: 519422 Northing: 209412	Annual Volume (m^3): 110,000 Max Daily Volume (m^3): 6,048 Original Application No: - Original Start Date: 20/08/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 20/08/2018 Version End Date: -
-	1977m W	Status: Historical Licence No: TH/039/0028/051 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT F Data Type: Point Name: Brett Aggregates Limited Easting: 519432 Northing: 208396	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -
-	1977m W	Status: Historical Licence No: TH/039/0028/054 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HATFIELD ROAD QUARRY, HATFIELD, NEAR ST. ALBANS. POINT F Data Type: Point Name: Brett Aggregates Limited Easting: 519432 Northing: 208396	Annual Volume (m^3): 521632 Max Daily Volume (m^3): 2387 Original Application No: - Original Start Date: 02/11/2018 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 02/11/2018 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	1

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 42**

ID	Location	Details	
-	1802m NW	Status: Historical Licence No: 28/39/28/0553 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: TRIBUTARY OF RIVER COLNE AT HATFIELD QAURRY, ST. ALBANS Data Type: Point Name: RMC AGGREGATES (GREATER LONDON) LTD Easting: 519890 Northing: 209560	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 23/07/1999 Expiry Date: 31-Jul-03 Issue No: 1 Version Start Date: 21/12/2000 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	4

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 42**

ID	Location	Details	
-	937m SE	Status: Active Licence No: 29/38/01/0061 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ROE GREEN, BISHOP'S RISE - BOREHOLE A Data Type: Point Name: Affinity Water Limited Easting: 522012 Northing: 207729	Annual Volume (m^3): 3,318,649 Max Daily Volume (m^3): 9,092.19 Original Application No: - Original Start Date: 20/09/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/05/2014 Version End Date: -

ID	Location	Details	
-	954m SE	Status: Historical Licence No: 29/38/01/0061 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ROE GREEN - BISHOP'S RISE Data Type: Point Name: Veolia Water Central Limited Easting: 522000 Northing: 207700	Annual Volume (m^3): 3,318,649 Max Daily Volume (m^3): 9092.19 Original Application No: - Original Start Date: 20/09/1966 Expiry Date: - Issue No: 101 Version Start Date: 20/07/2009 Version End Date: -
-	1128m N	Status: Historical Licence No: 28/39/28/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE B AT COMET WAY, HATFIELD Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521100 Northing: 209690	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -
-	1179m N	Status: Historical Licence No: 28/39/28/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HATFIELD, HERTS Data Type: Point Name: BRITISH AEROSPACE PROP'S LTD Easting: 521350 Northing: 209790	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 30/03/1999 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m **6**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

Features are displayed on the Abstractions and Source Protection Zones map on **page 42**

ID	Location	Type	Description
1	**On site**	**2**	**Outer catchment**
2	68m NE	3	Total catchment
3	118m NE	3	Total catchment
4	168m NE	3	Total catchment

ID	Location	Type	Description
5	217m NE	3	Total catchment
6	372m SE	1	Inner catchment

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m	**0**

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

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

6 Hydrology

6.1 Water Network (OS MasterMap)

Records within 250m	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	1

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

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

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

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

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River**	**Upper Colne and Ellen Brook**	**GB106039029820**	**Colne**	**Colne**

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

6.4 WFD Surface water bodies

Records identified	1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

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

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	675m SW	River	Upper Colne and Ellen Brook	GB106039029820	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

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

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Mid-Chilterns Chalk**	**GB40601G601200**	**Poor**	**Poor**	**Poor**	**2019**

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

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

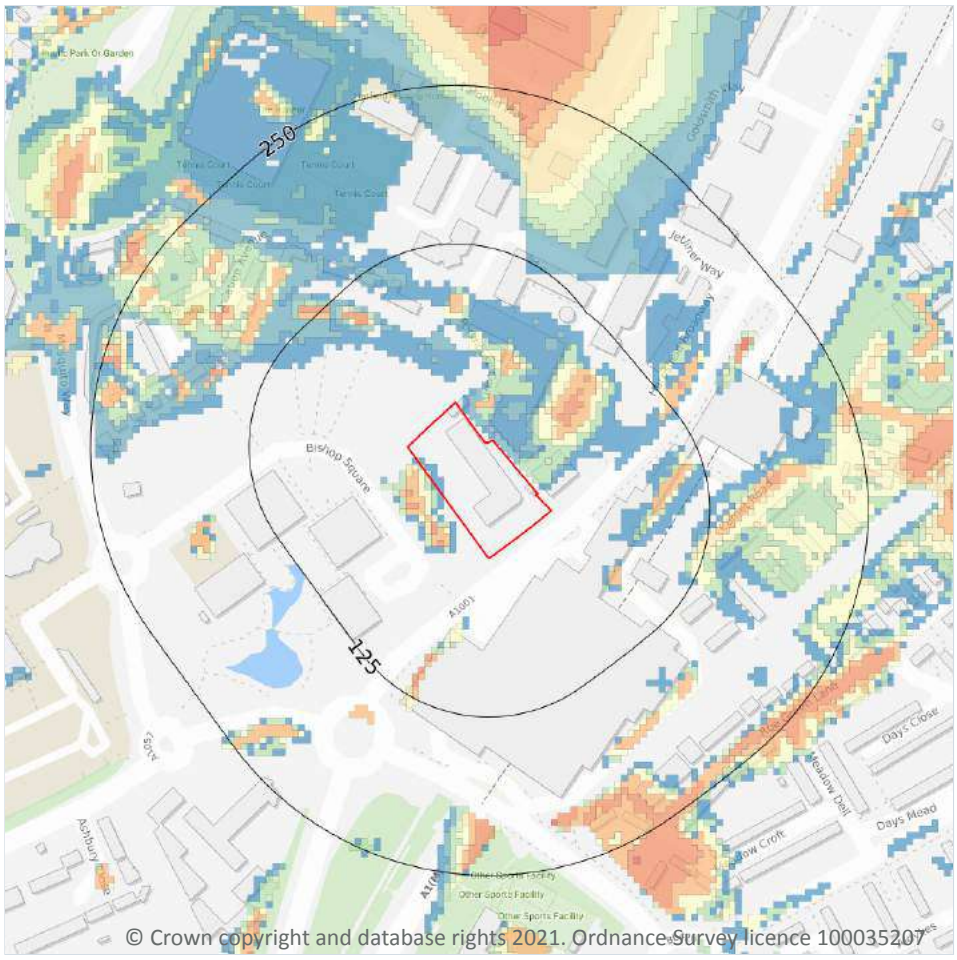
7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding



Site Outline

Search buffers in metres (m)

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

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

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

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

8.1 Surface water flooding

Highest risk on site	**1 in 100 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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

Features are displayed on the Surface water flooding map on **page 60**

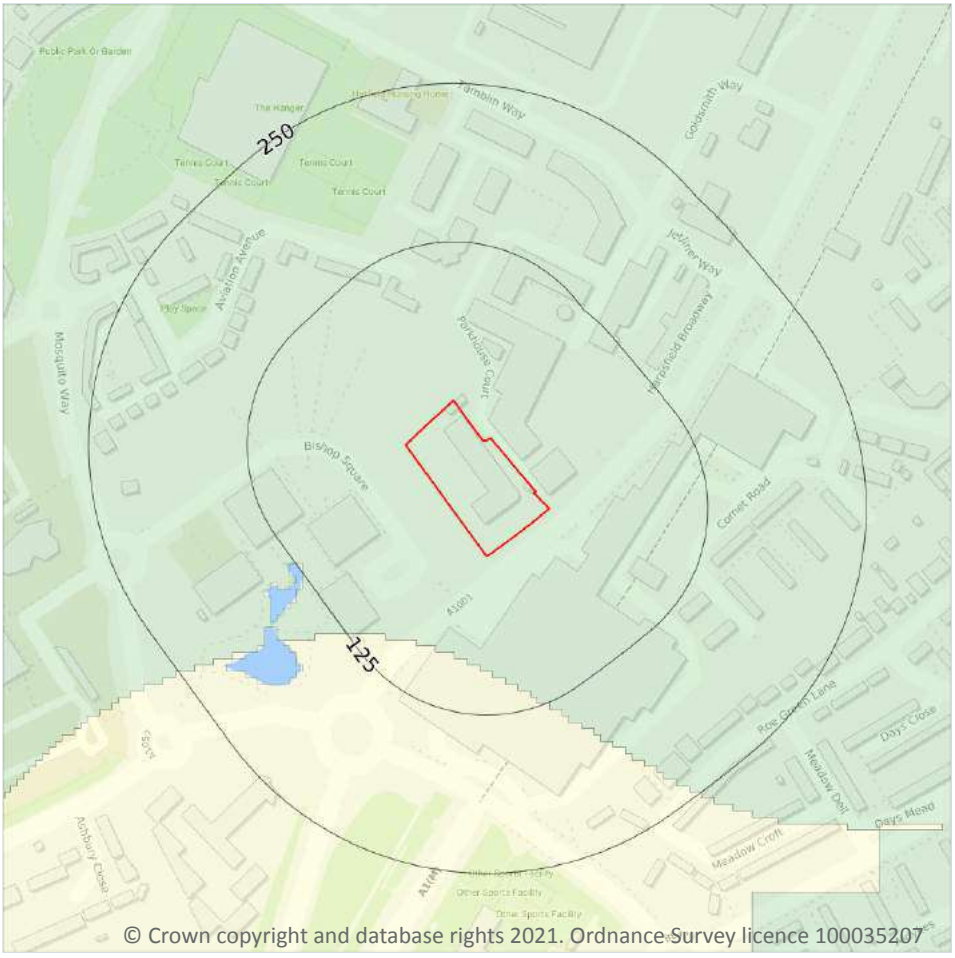
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

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

9.1 Groundwater flooding

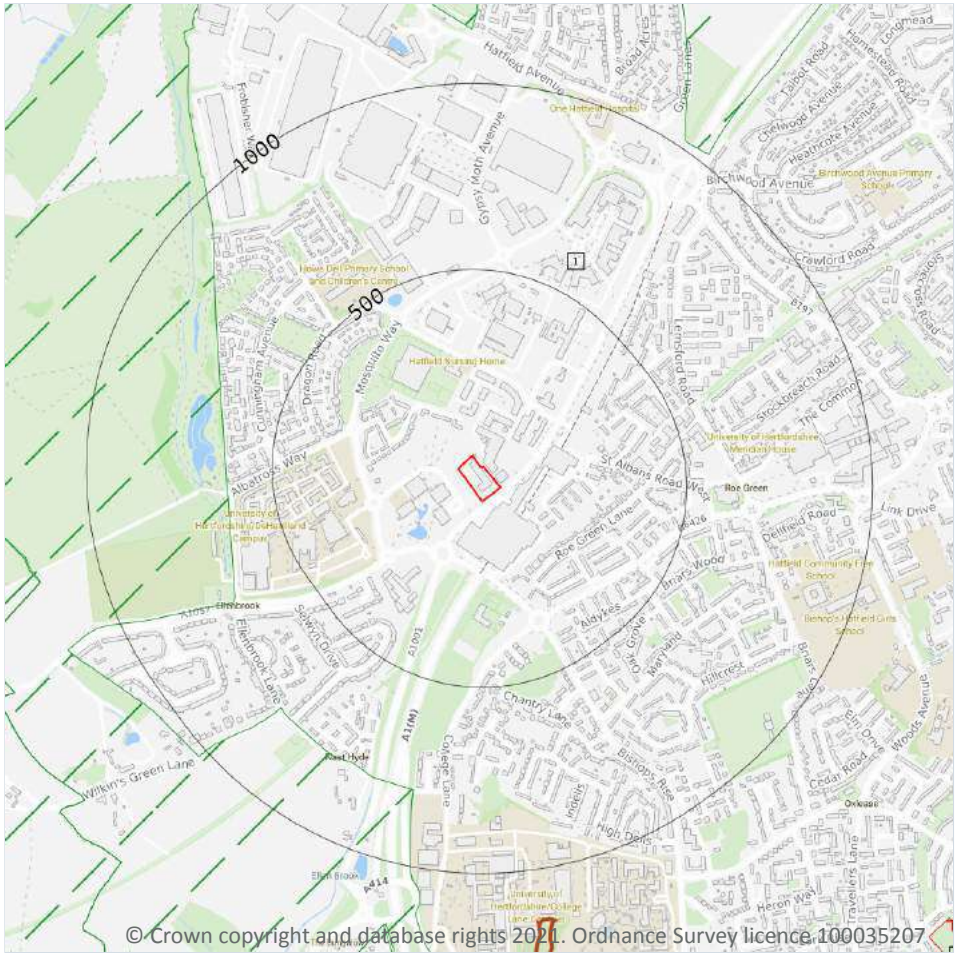
Highest risk on site	**Low**
Highest risk within 50m	**Low**

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

Features are displayed on the Groundwater flooding map on **page 62**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Local Nature Reserves (LNR)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	2

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on **page 63**

ID	Location	Name	Data source
-	1400m E	Howe Dell	Natural England
5	1669m SE	Oxleys Wood	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	1

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 63**

ID	Location	Name	Woodland Type
2	1136m S	Hazel Grove	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	2

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

Features are displayed on the Environmental designations map on **page 63**

ID	Location	Name	Local Authority name
1	623m W	London	Welwyn Hatfield
3	1165m W	London	St Albans

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	2

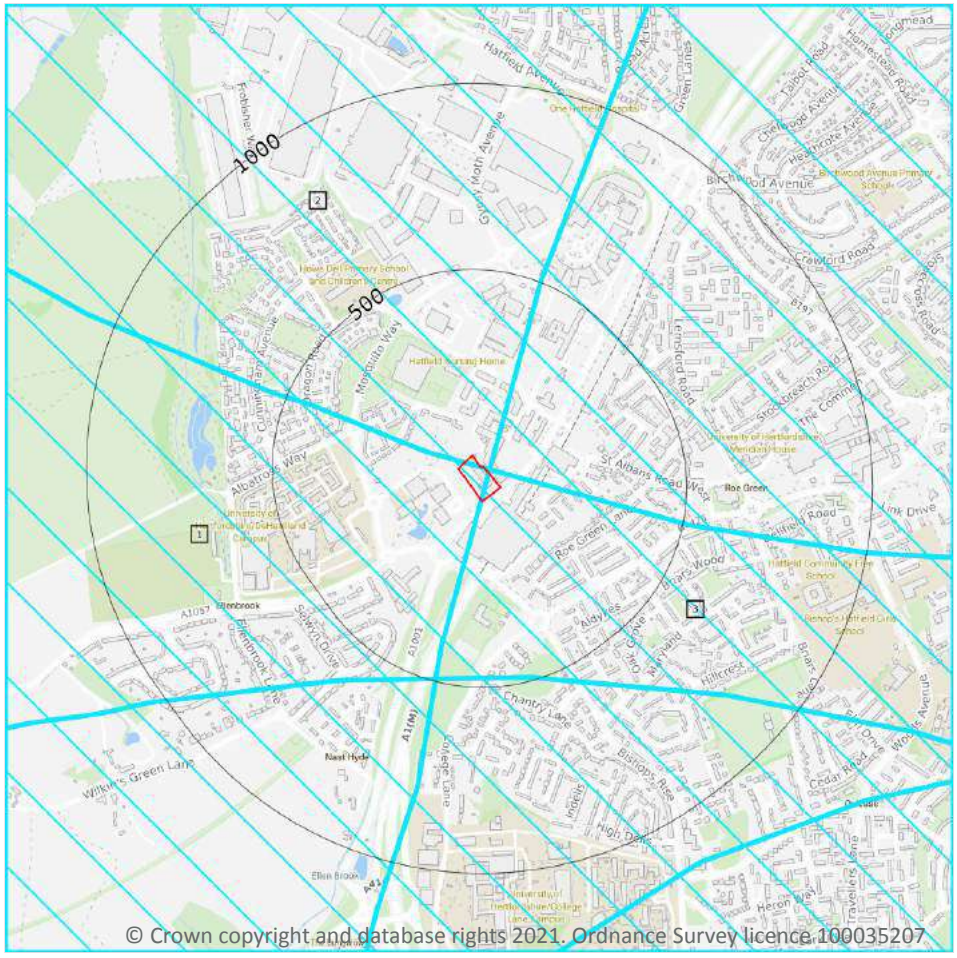
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	**Hatfield**	**Groundwater**	**G93**	**Existing**

Location	Name	Type	NVZ ID	Status
495m N	LEE NVZ	Surface Water	S443	Existing

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	3

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

Features are displayed on the SSSI Impact Zones and Units map on **page 69**

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals.** **Minerals, Oil and Gas - Oil & gas exploration/extraction.**

ID	Location	Type of developments requiring consultation
2	**On site**	**Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.**
3	**On site**	**Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	**0**

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

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

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

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

11.4 Listed Buildings

Records within 250m	0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

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

11.5 Conservation Areas

Records within 250m	0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

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

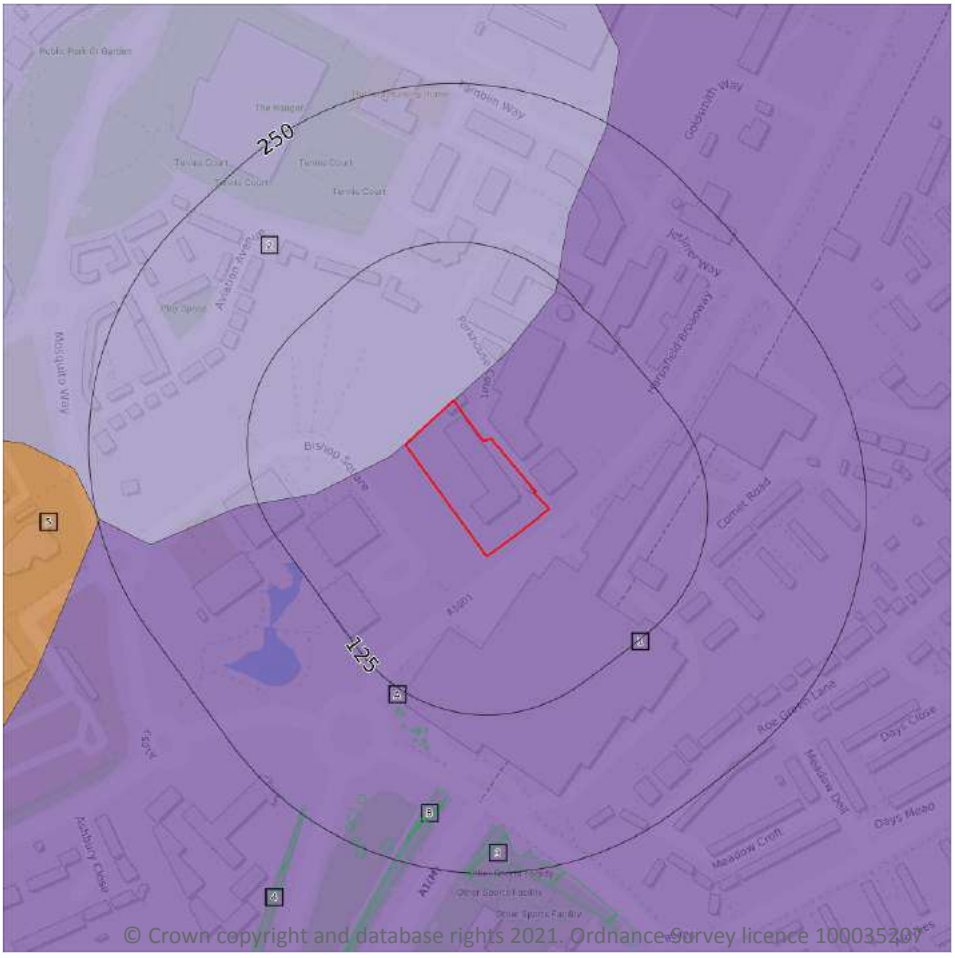
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	3

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 73**

ID	Location	Classification	Description
1	**On site**	**Urban**	-
2	**On site**	**Non Agricultural**	-

ID	Location	Classification	Description
5	248m W	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	**0**

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

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

12.3 Tree Felling Licences

Records within 250m	**20**

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

Features are displayed on the Agricultural designations map on **page 73**

ID	Location	Description	Reference	Application date
A	129m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	138m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	140m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	144m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	145m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	148m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	148m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	152m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	154m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-

ID	Location	Description	Reference	Application date
A	157m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	188m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	212m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
3	213m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	213m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	225m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	236m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	236m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	244m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
4	246m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	248m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	**0**

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	**0**

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

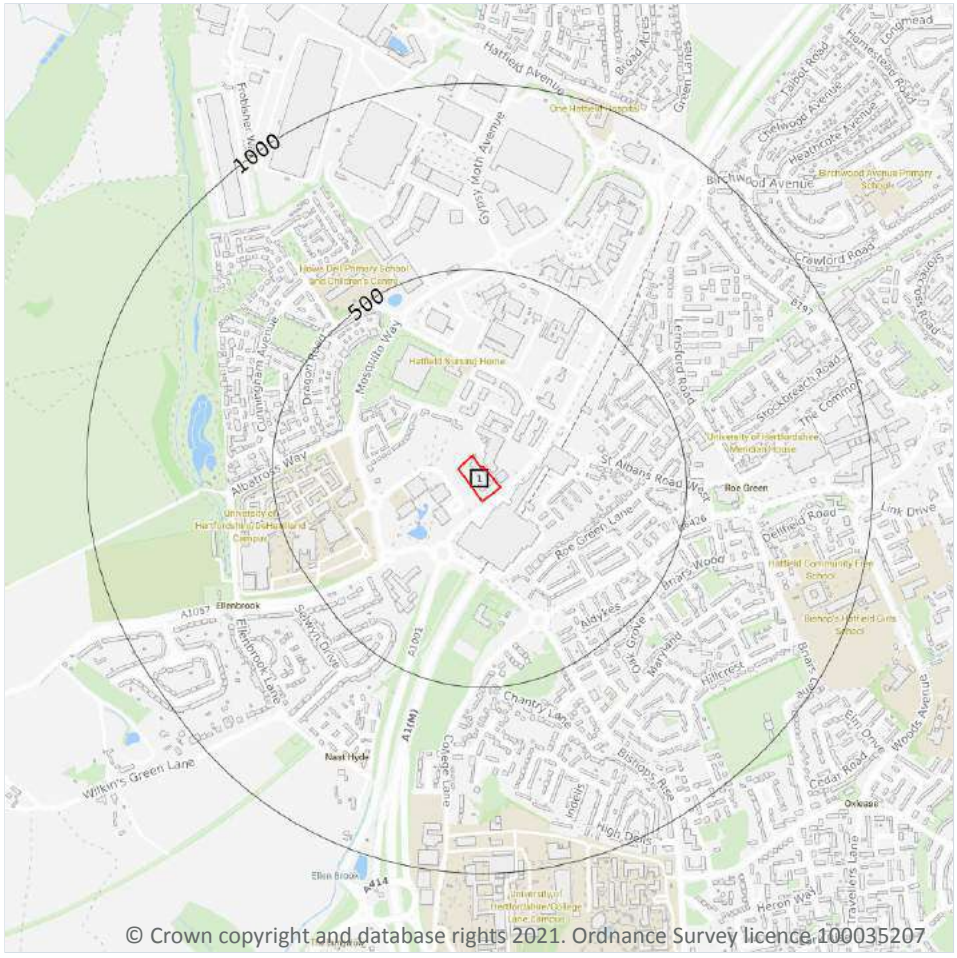
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 77**

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

14.2 Artificial and made ground (10k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

This data is sourced from the British Geological Survey.

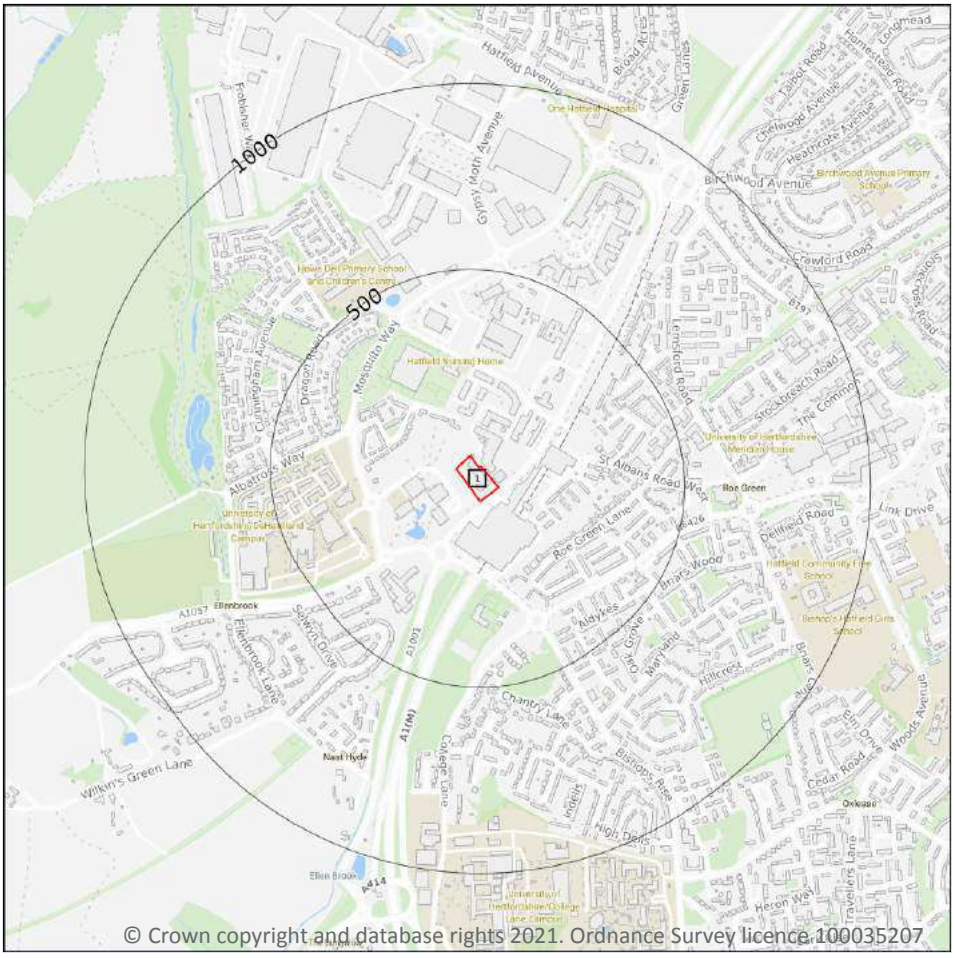
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 81**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW239_hertford_v4**

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

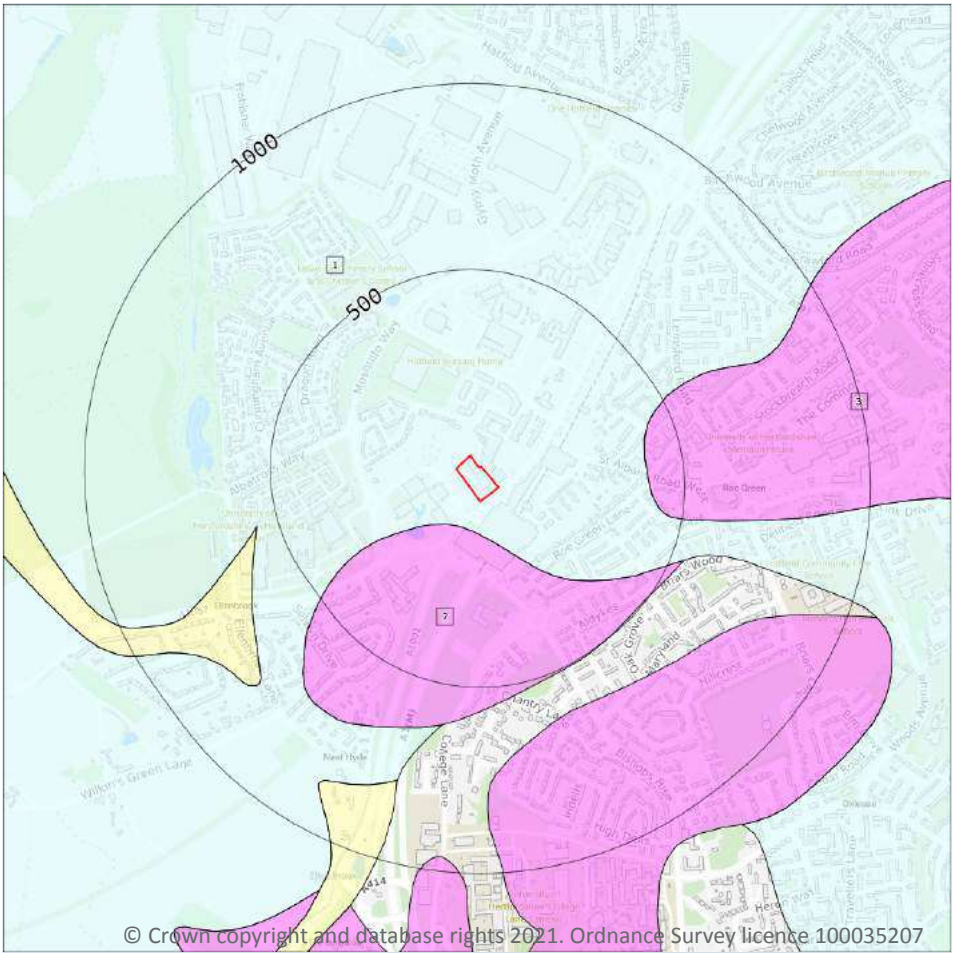
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **3**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 83**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**LOFT-DMTN**	**LOWESTOFT FORMATION**	**DIAMICTON**
2	83m S	KGCA-XSV	KESGRAVE CATCHMENT SUBGROUP	SAND AND GRAVEL
3	401m E	KGCA-XSV	KESGRAVE CATCHMENT SUBGROUP	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Moderate**	**Low**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

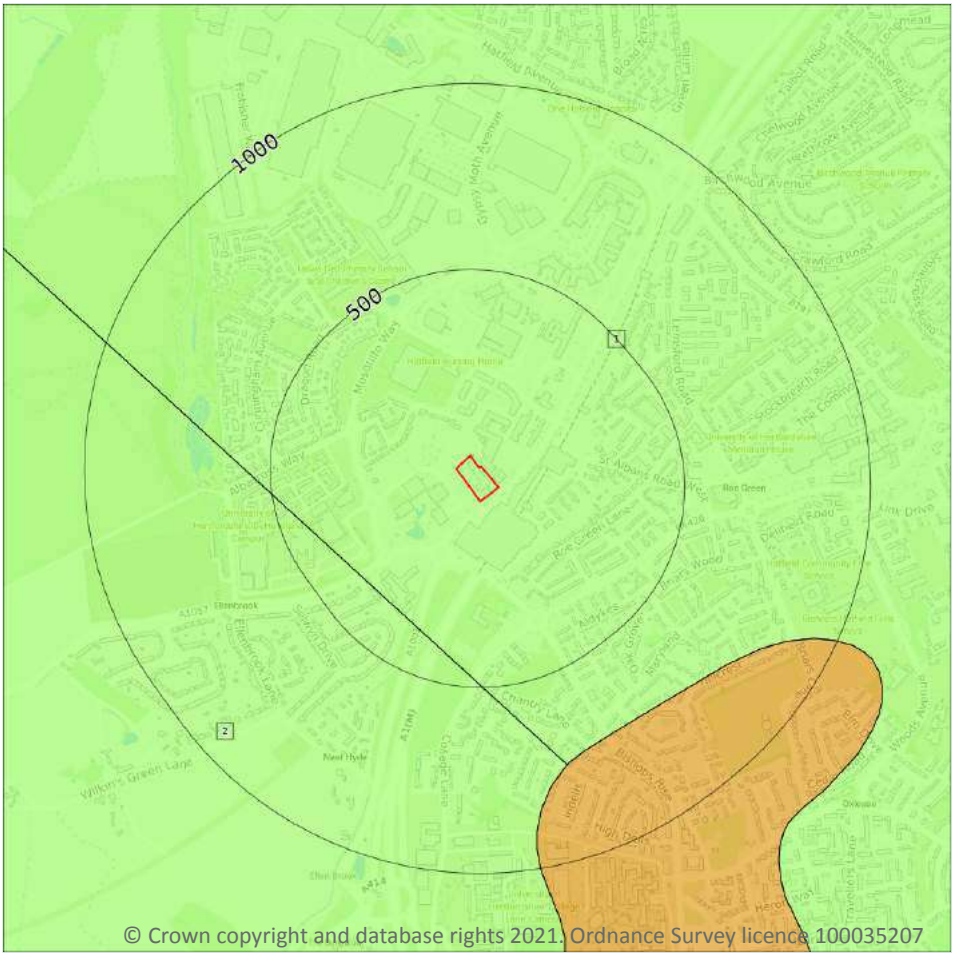
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	2

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 85**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LESE-CHLK**	**LEWES NODULAR CHALK FORMATION AND SEAFORD CHALK FORMATION (UNDIFFERENTIATED) - CHALK**	**TURONIAN**
2	364m SW	LESE-CHLK	LEWES NODULAR CHALK FORMATION AND SEAFORD CHALK FORMATION (UNDIFFERENTIATED) - CHALK	TURONIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

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

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

This data is sourced from the British Geological Survey.

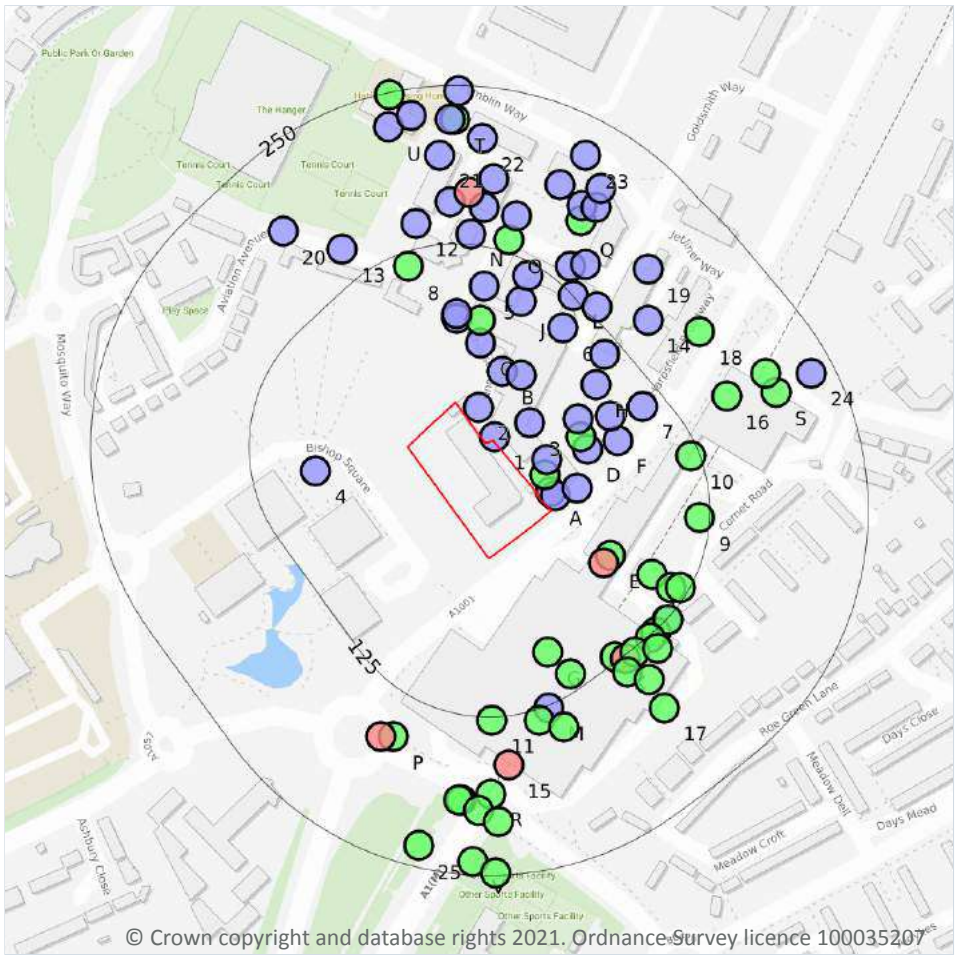
15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	98

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

Features are displayed on the Boreholes map on **page 87**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	3m NE	521470 208587	COMET SQUARE HATFIELD TP17	3.15	N	17283088
A	10m NE	521514 208543	COMET SQUARE HATFIELD 10B	0.65	N	17282998
A	10m NE	521518 208540	COMET SQUARE HATFIELD 10A	0.7	N	17282997

ID	Location	Grid reference	Name	Length	Confidential	Web link
2	12m NE	521457 208610	COMET SQUARE HATFIELD TP16	3.0	N	17283087
A	14m NE	521510 208557	COMET SQUARE HATFIELD 10	13.0	N	17282994
A	23m NE	521511 208569	COMET SQUARE HATFIELD TP19	3.4	N	17283092
A	27m NE	521535 208546	COMET SQUARE HATFIELD TP20	3.3	N	17283094
3	32m NE	521498 208598	COMET SQUARE HATFIELD TP18	3.0	N	17283090
B	44m NE	521476 208638	COMET SQUARE HATFIELD TP15	3.3	N	17283086
C	51m NE	521459 208661	COMET SQUARE HATFIELD TP14	3.2	N	17283085
D	52m NE	521543 208577	COMET SQUARE HATFIELD TP46	3.6	N	17283147
B	54m NE	521491 208635	COMET SQUARE HATFIELD 9	10.0	N	17282991
D	55m NE	521538 208587	HATFIELD AERODROME UNIVERSITY SITE BHN	21.7	N	18930567
E	58m SE	521561 208493	A1 ROESTOCK - STANBOROUGH S23	15.0	N	18059211
E	59m SE	521556 208487	A1 (M) ROESTOCK TO STANBOROUGH F38	31.0	N	532639
D	63m NE	521536 208601	COMET SQUARE HATFIELD TP44	3.0	N	17283134
C	66m N	521440 208680	COMET SQUARE HATFIELD TP13A	3.1	N	17283083
C	68m N	521459 208679	COMET SQUARE HATFIELD 8	10.45	N	17282989
C	70m N	521440 208684	COMET SQUARE HATFIELD TP13	1.3	N	17283082
4	75m W	521329 208560	A1 ROESTOCK TO STANBOROUGH A151	10.0	N	532563
F	76m NE	521567 208584	COMET SQUARE HATFIELD TP45	2.9	N	17283146
F	83m NE	521561 208603	COMET SQUARE HATFIELD TP43	2.5	N	17283123
G	87m SE	521512 208417	A1 ROESTOCK - STANBOROUGH S22	15.3	N	18059210
H	91m NE	521550 208628	COMET SQUARE HATFIELD TP41	3.0	N	17283121
I	94m SE	521594 208478	A1 ROESTOCK TO STANBOROUGH A59	15.0	N	532544
5	95m N	521462 208706	COMET SQUARE HATFIELD TP31	3.6	N	17283110
J	95m NE	521491 208694	COMET SQUARE HATFIELD TP34	3.6	N	17283114
6	103m NE	521524 208673	COMET SQUARE HATFIELD TP36	2.8	N	17283116
7	108m NE	521587 208611	COMET SQUARE HATFIELD TP42	0.95	N	17283122
G	111m SE	521530 208400	A1 (M) ROESTOCK TO STANBOROUGH F37	30.0	N	532638
H	111m NE	521557 208652	COMET SQUARE HATFIELD TP40	3.1	N	17283120

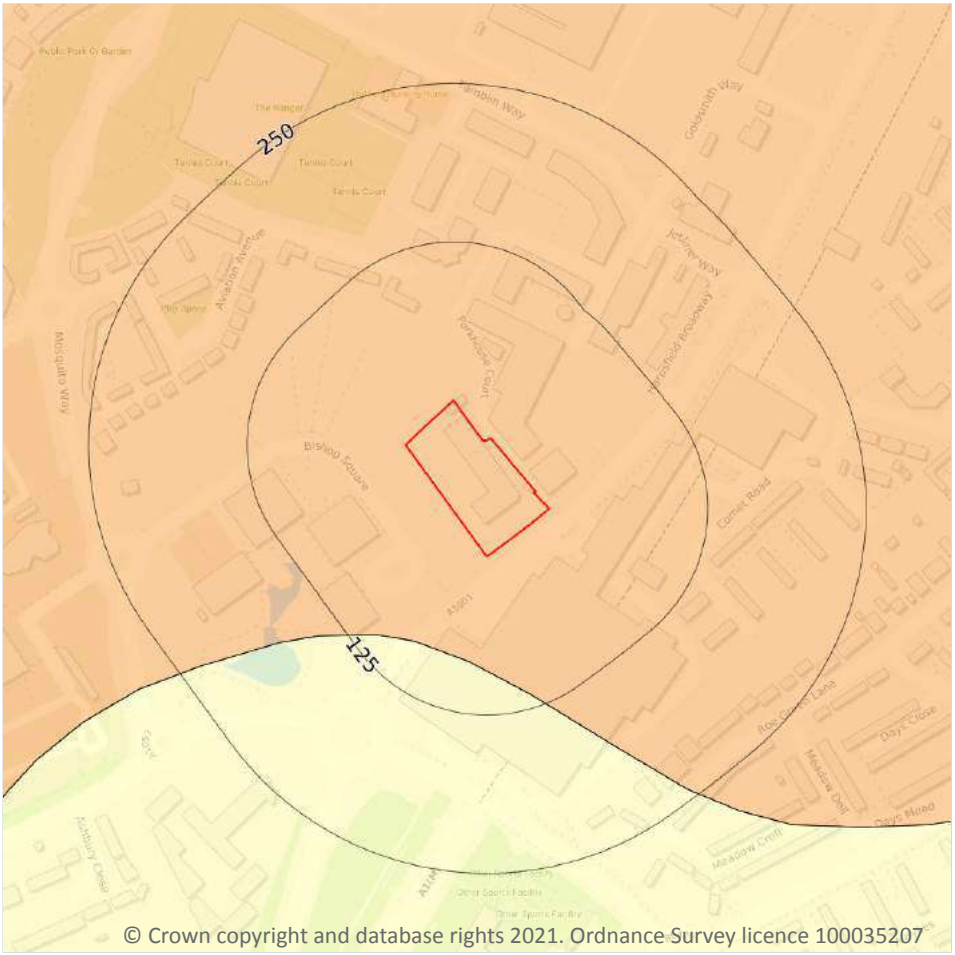
ID	Location	Grid reference	Name	Length	Confidential	Web link
I	112m SE	521609 208468	A1 (M) ROESTOCK TO STANBOROUGH F12	25.0	N	532618
8	113m N	521402 208721	COMET SQUARE HATFIELD 3	13.45	N	17282973
J	115m NE	521496 208714	COMET SQUARE HATFIELD TP32	3.0	N	17283111
9	117m E	521632 208523	A1 ROESTOCK TO STANBOROUGH A60	17.0	N	532545
10	118m E	521625 208572	A1 ROESTOCK - STANBOROUGH S24	14.9	N	18059212
I	119m SE	521617 208468	A1 (M) ROESTOCK TO STANBOROUGH F11	25.0	N	532617
K	122m SE	521565 208413	A1(M) ROESTOCK - STANBOROUGH 11	14.05	N	18059485
L	125m NE	521532 208698	COMET SQUARE HATFIELD TP35	3.3	N	17283115
K	126m SE	521606 208442	A1 ROESTOCK TO STANBOROUGH TP A125	5.5	N	532554
K	126m SE	521597 208433	A1(M) ROESTOCK - STANBOROUGH 15	13.9	N	18059519
K	126m SE	521607 208442	A1(M) ROESTOCK - STANBOROUGH 16	11.8	N	18059520
M	127m S	521513 208373	A1 ROESTOCK TO STANBOROUGH TP A124	5.3	N	532553
K	127m SE	521593 208428	A1(M) ROESTOCK - STANBOROUGH 14	26.95	N	18059488
K	127m SE	521573 208412	A1(M) ROESTOCK - STANBOROUGH DS1	37.0	N	18059658
11	128m S	521468 208363	A1 ROESTOCK - STANBOROUGH S21	22.0	N	18059209
K	128m SE	521581 208417	A1(M) ROESTOCK - STANBOROUGH 13	14.3	N	18059487
L	134m NE	521551 208689	COMET SQUARE HATFIELD TP37	3.3	N	17283117
N	134m N	521451 208747	COMET SQUARE HATFIELD TP7	3.0	N	17283026
M	134m S	521505 208363	A1 (M) ROESTOCK TO STANBOROUGH F36	30.0	N	532637
O	135m N	521481 208742	COMET SQUARE HATFIELD 6	10.45	N	17282982
K	137m SE	521575 208401	A1(M) ROESTOCK - STANBOROUGH 12	13.5	N	18059486
K	137m SE	521599 208420	A1(M) ROESTOCK - STANBOROUGH 19	22.3	N	18059556
L	140m NE	521530 208721	A1 ROESTOCK TO STANBOROUGH A152	10.0	N	532564
12	145m N	521408 208755	COMET SQUARE HATFIELD TP8	3.2	N	17283029
M	145m SE	521525 208358	A1 ROESTOCK TO STANBOROUGH A56	16.5	N	532543
L	150m NE	521542 208723	COMET SQUARE HATFIELD TP33	2.0	N	17283112
13	150m NW	521350 208735	COMET SQUARE HATFIELD TP23	4.8	N	17283099
K	152m SE	521592 208395	A1(M) ROESTOCK - STANBOROUGH 17	26.0	N	18059521

ID	Location	Grid reference	Name	Length	Confidential	Web link
O	155m N	521487 208761	COMET SQUARE HATFIELD TP11	0.9	N	17283079
14	155m NE	521591 208679	COMET SQUARE HATFIELD TP39	2.8	N	17283119
N	156m N	521462 208768	COMET SQUARE HATFIELD 4	10.0	N	17282977
N	158m N	521435 208772	COMET SQUARE HATFIELD TP6	2.2	N	17283023
P	160m SW	521390 208350	A1 ROESTOCK - STANBOROUGH S20A	17.2	N	532480
15	163m S	521481 208328	A1 (M) ROESTOCK TO STANBOROUGH F35	30.6	N	532636
P	165m SW	521380 208350	A1 ROESTOCK - STANBOROUGH S20B	33.0	N	532481
16	165m NE	521653 208619	A1 ROESTOCK TO STANBOROUGH A61	20.05	N	532546
N	166m N	521450 208780	HATFIELD AERODROME HATFIELD	106.68	N	532489
Q	174m NE	521538 208757	COMET SQUARE HATFIELD 7	16.0	N	17282986
17	177m SE	521604 208373	A1(M) ROESTOCK - STANBOROUGH 18	12.8	N	18059529
N	179m N	521469 208790	COMET SQUARE HATFIELD TP5	1.3	N	17283021
18	180m NE	521632 208670	A1 (M) ROESTOCK TO STANBOROUGH F21	12.0	N	532623
19	182m NE	521591 208719	COMET SQUARE HATFIELD TP38	3.0	N	17283118
Q	184m NE	521539 208769	COMET SQUARE HATFIELD TP12	3.2	N	17283081
R	186m S	521467 208305	A1 ROESTOCK TO STANBOROUGH A54	28.0	N	532542
Q	190m NE	521550 208768	COMET SQUARE HATFIELD TP10	0.9	N	17283060
Q	191m NE	521522 208786	COMET SQUARE HATFIELD TP9	3.3	N	17283058
20	192m NW	521303 208749	COMET SQUARE HATFIELD TP22	2.5	N	17283098
R	192m S	521444 208300	A1 ROESTOCK - STANBOROUGH S19	15.0	N	18059208
R	192m S	521442 208300	A1 ROESTOCK TO STANBOROUGH A51	20.0	N	532539
21	195m N	521427 208809	COMET SQUARE HATFIELD TP4	3.0	N	17283020
R	199m S	521457 208292	A1 ROESTOCK TO STANBOROUGH A52	23.0	N	532540
S	200m NE	521692 208622	A1 ROESTOCK TO STANBOROUGH A63	15.5	N	532547
S	201m NE	521684 208637	A1 ROESTOCK - STANBOROUGH S25	15.2	N	18059213
Q	204m NE	521554 208783	COMET SQUARE HATFIELD 5	10.0	N	17282979
R	208m S	521473 208283	A1 ROESTOCK TO STANBOROUGH A53	21.5	N	532541
22	209m N	521460 208822	COMET SQUARE HATFIELD TP3	3.3	N	17283019

ID	Location	Grid reference	Name	Length	Confidential	Web link
23	220m NE	521542 208809	COMET SQUARE HATFIELD TP29	1.1	N	17283107
T	223m N	521439 208837	COMET SQUARE HATFIELD 2A	14.0	N	17282971
T	223m N	521435 208837	COMET SQUARE HATFIELD 2	0.8	N	17282969
U	224m N	521386 208831	COMET SQUARE HATFIELD TP1	3.3	N	17283014
U	229m N	521404 208840	COMET SQUARE HATFIELD TP2	2.9	N	17283017
24	232m NE	521720 208637	A1 (M) ROESTOCK TO STANBOROUGH F22	10.0	N	532624
25	233m S	521410 208264	A1 ROESTOCK - STANBOROUGH S18	22.0	N	18059207
V	239m S	521453 208252	A1 ROESTOCK TO STANBOROUGH A49	12.0	N	532537
T	246m N	521442 208860	COMET SQUARE HATFIELD TP27	3.3	N	17283103
V	248m S	521471 208243	A1 ROESTOCK TO STANBOROUGH A50	12.0	N	532538
U	249m N	521387 208857	COMET SQUARE HATFIELD 1	11.6	N	17282966

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m	1

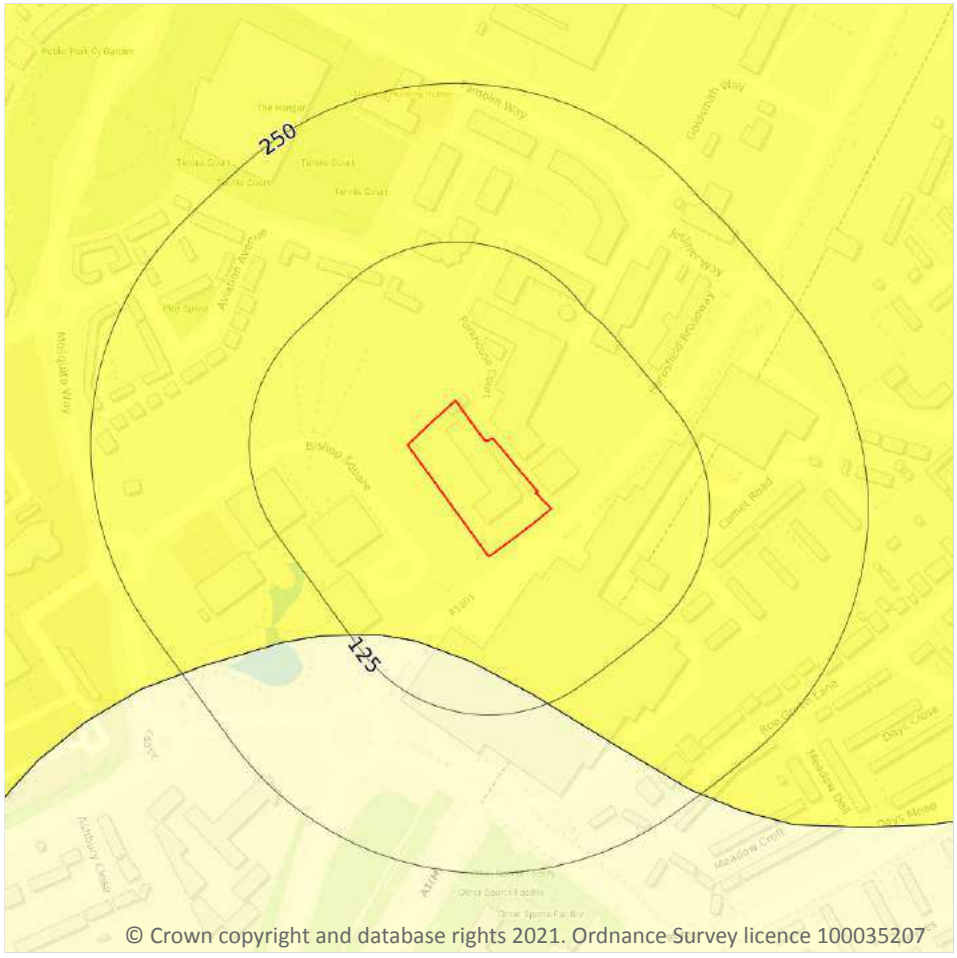
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 92**

Location	Hazard rating	Details
On site	**Low**	**Ground conditions predominantly medium plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

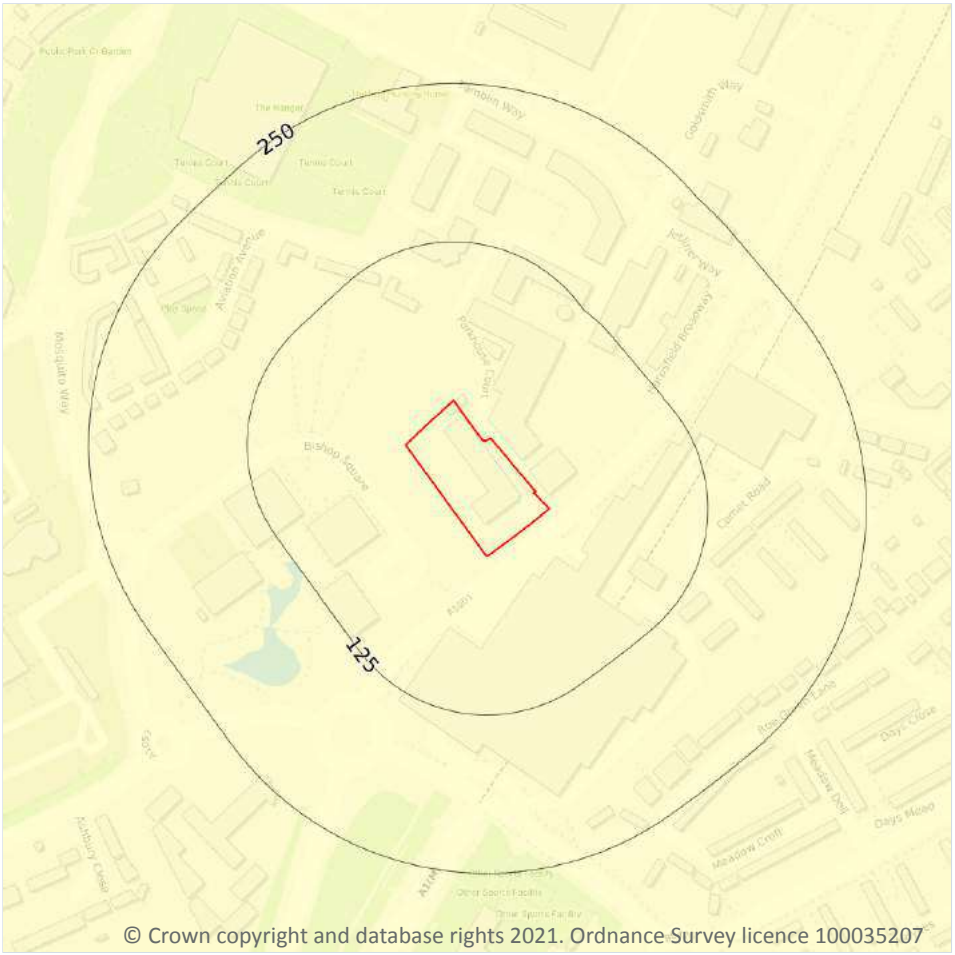
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 93**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

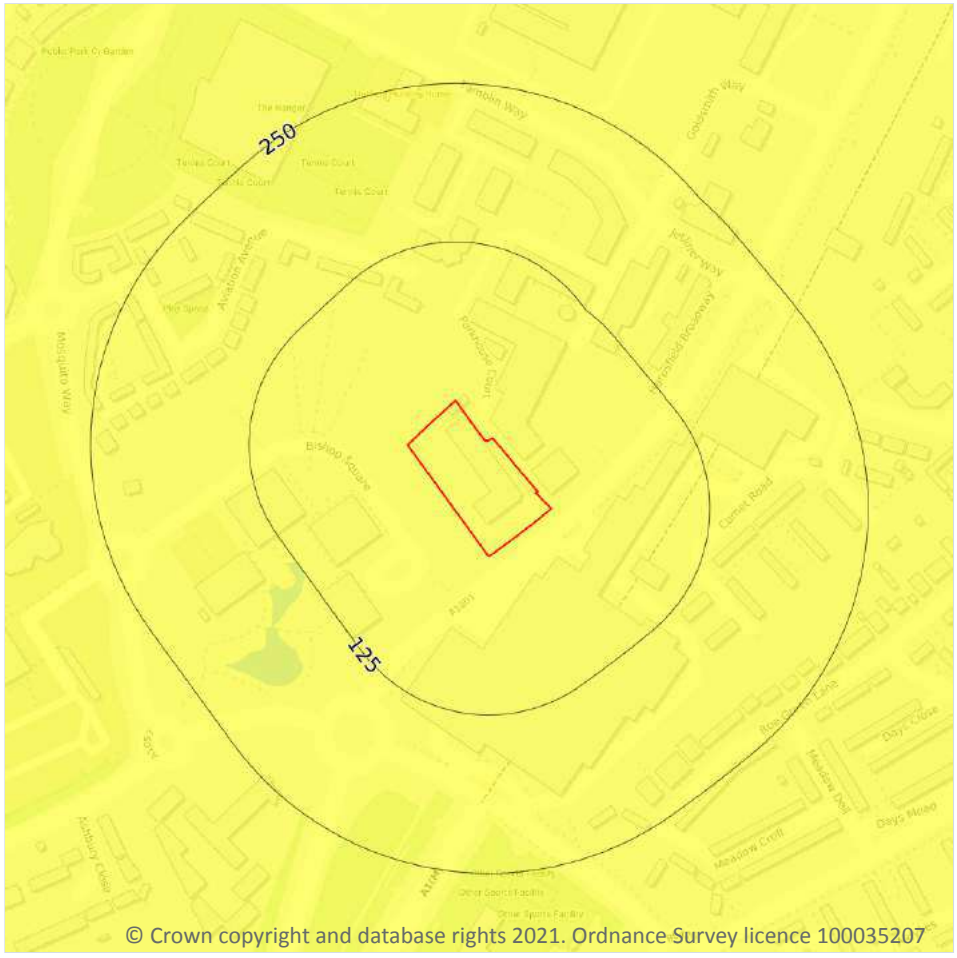
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 94**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

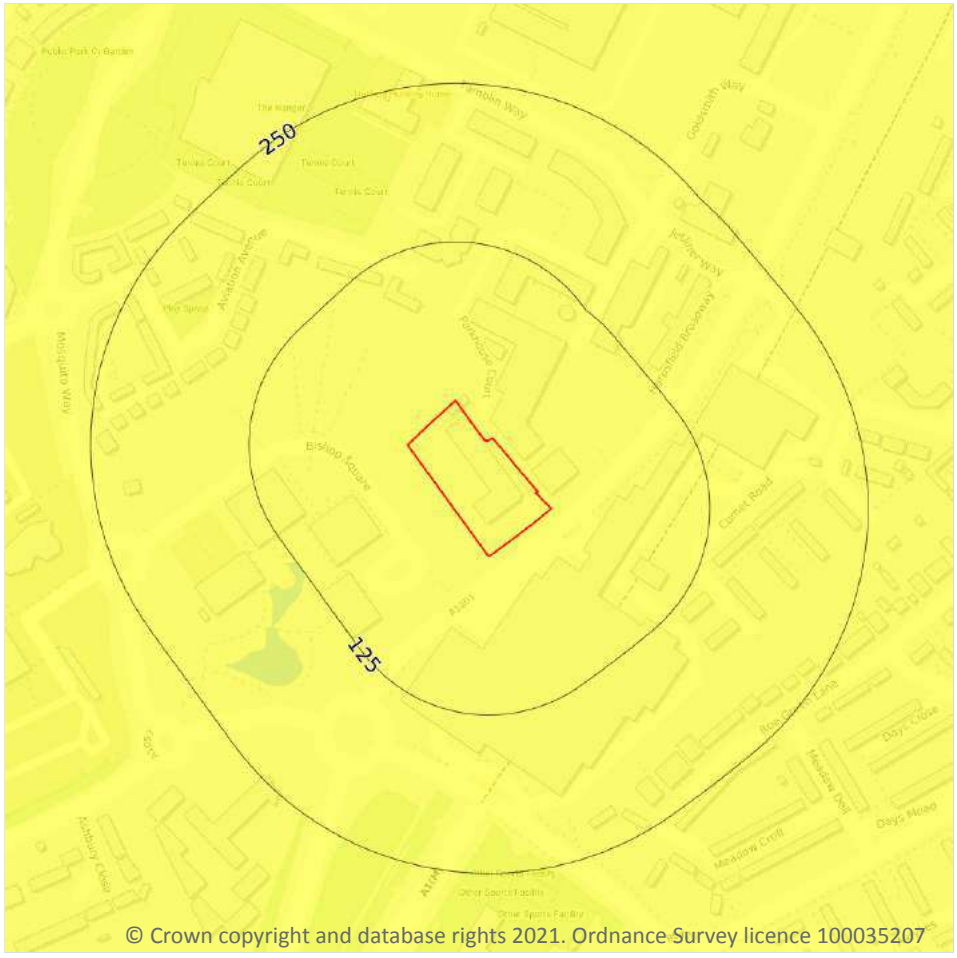
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 95**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

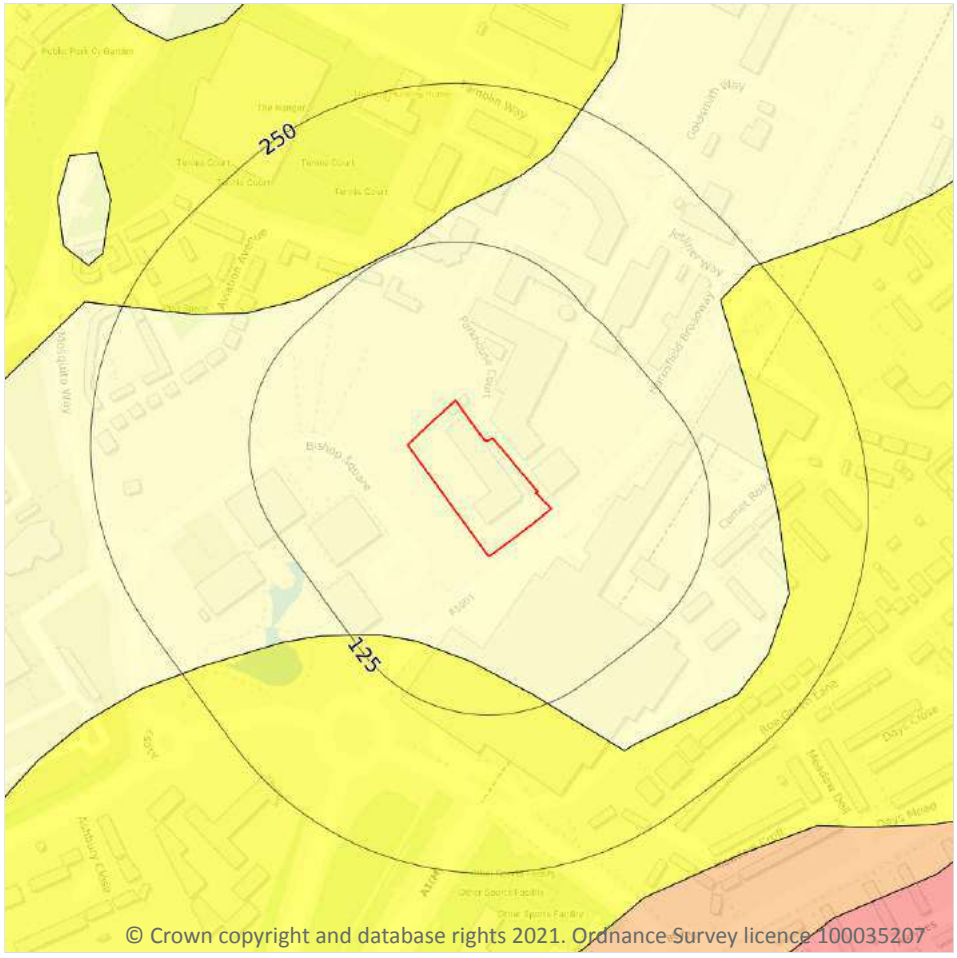
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 96**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

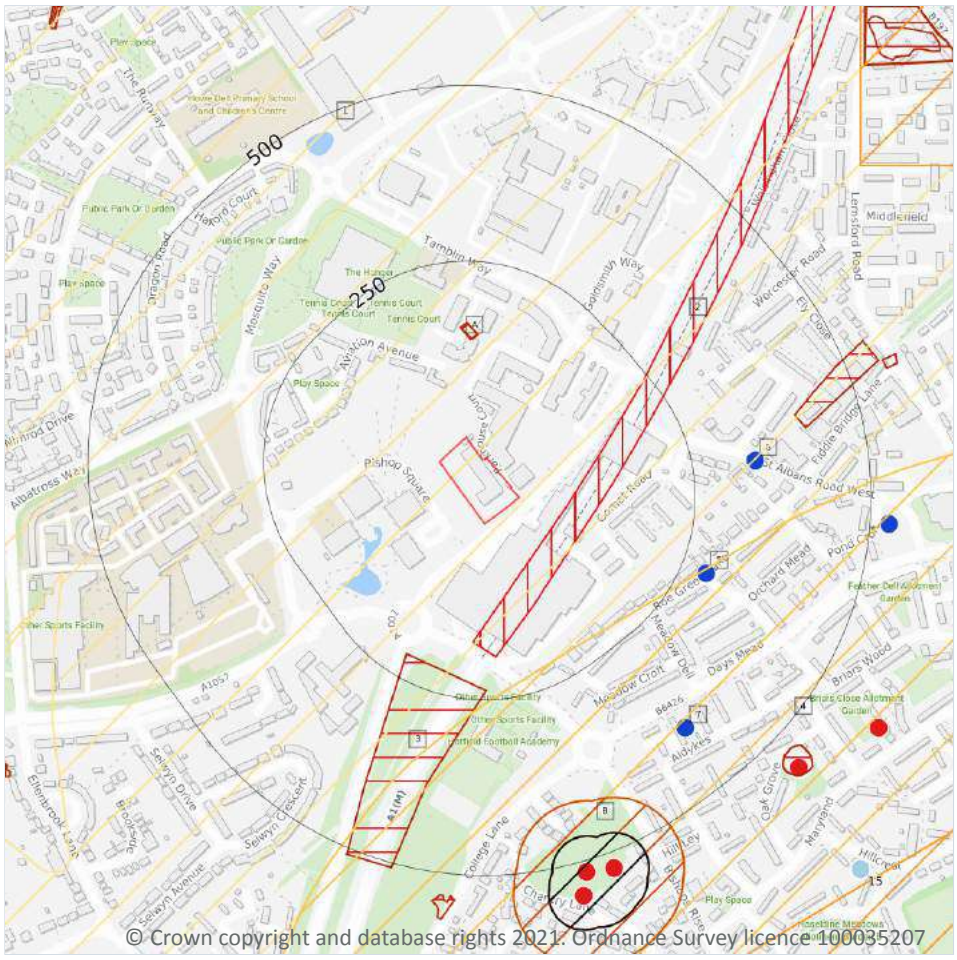
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 97**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	3

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

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

ID	Location	Details	Source
5	286m E	Type: Swallow Hole x 1 Superficial Geology: Glacial Till and morainic drift Bedrock Geology: Chalk Group	Simple Bibliography: Peter Brett Associates Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely

ID	Location	Details	Source
6	339m E	Type: Sinkhole x 1 Superficial Geology: Glacial Till and morainic drift Bedrock Geology: Chalk Group	Simple Bibliography: Peter Brett Associates Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely
7	403m SE	Type: Solution Pipe x 3 Superficial Geology: Glacial Sand & Gravel Bedrock Geology: Chalk Group	Simple Bibliography: British Geological Survey Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	**3**

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

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

ID	Location	Land Use	Year of mapping	Mapping scale
A	139m N	Pool	1971	1:10560
A	139m N	Pool	1938	1:10560
3	214m SW	Cuttings	1988	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	3

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

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

ID	Location	Land Use	Year of mapping	Mapping scale
2	63m SE	Tunnel	1988	1:10000
-	946m S	Unspecified Shafts	1879	1:10560
-	954m S	Unspecified Shafts	1879	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	10

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

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

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Chalk**	**A**	**Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered**

ID	Location	Name	Commodity	Class	Likelihood
4	217m SE	Not available	Chalk	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
B	415m S	Chantry Lane Mine	Chalk	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
B	465m S	Chantry Lane Mine	Chalk	E	Underground mining is known to have occurred within or very close to the area. Potential for difficult ground conditions should be investigated. Potential for localised subsidence is at a level where it should be considered
-	662m E	Briars Lane Mine	Chalk	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
13	675m NE	Not available	Chalk	C	Small scale underground mining may have occurred; mine adits, shafts and tunnels may be present. Potential for localised difficult ground conditions are at a level where they should be considered
-	712m E	Briars Lane Mine	Chalk	E	Underground mining is known to have occurred within or very close to the area. Potential for difficult ground conditions should be investigated. Potential for localised subsidence is at a level where it should be considered
14	717m SE	Not available	Chalk	C	Small scale underground mining may have occurred; mine adits, shafts and tunnels may be present. Potential for localised difficult ground conditions are at a level where they should be considered
-	846m S	Roe Green	Chalk	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
-	896m S	Roe Green	Chalk	E	Underground mining is known to have occurred within or very close to the area. Potential for difficult ground conditions should be investigated. Potential for localised subsidence is at a level where it should be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	9

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

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

ID	Location	Mine Address	Mineral	Data source	Publisher
B	534m S	Roe Green Farm, Hatfield, Hertfordshire	Chalk	-	-
15	717m SE	Hatfield, Hertfordshire	Chalk	MINERAL EXTRACTION DATABASE	PRIVATE
-	783m S	Roe Green Dell, Hatfield, Hertfordshire	Chalk	-	-
-	818m E	Briars Lane Mine (1), Hatfield, Hertfordshire	Chalk	-	-
-	818m E	Hatfield, Hertfordshire	Chalk	-	-
-	841m S	Hatfield, Hertfordshire	Chalk	-	-
-	881m S	Hatfield, Hertfordshire	Chalk	-	-
-	914m E	Briars Lane Mine (2), Hatfield, Hertfordshire	Chalk	-	-
-	961m S	Hatfield, Hertfordshire	Chalk	-	-

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

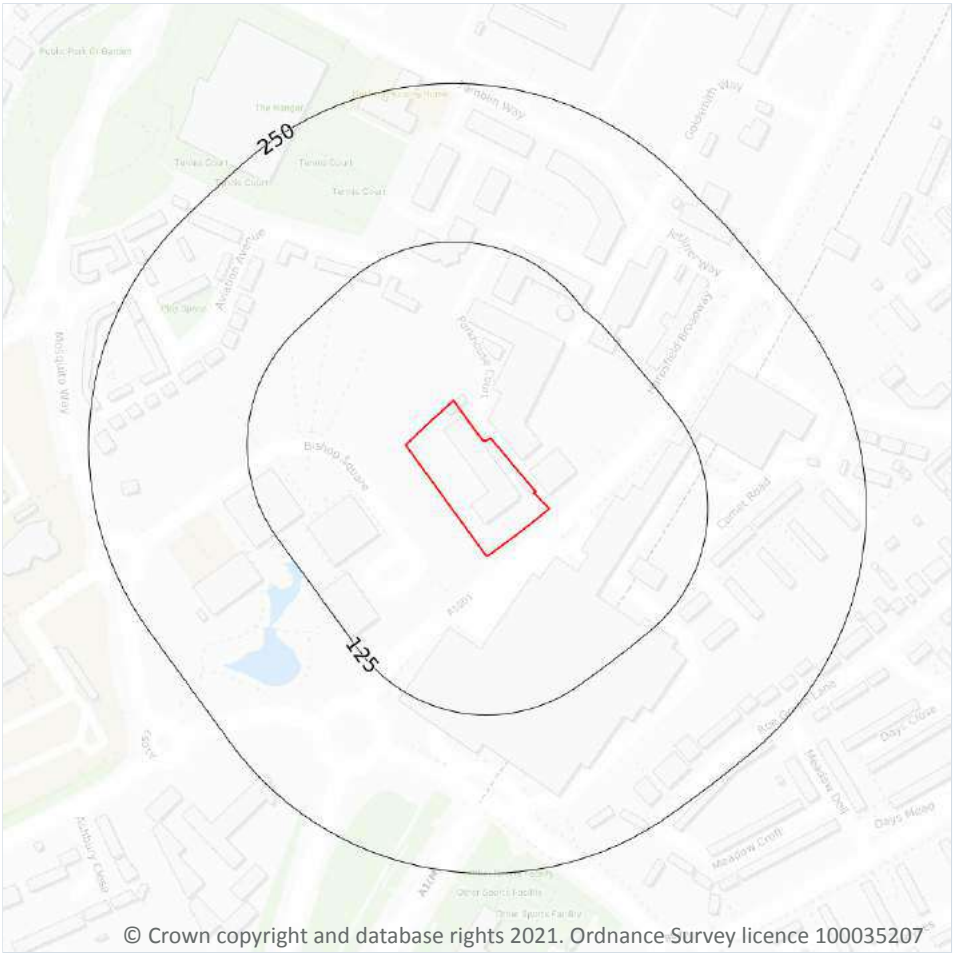
18.13 Clay mining

Records on site	0

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

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

19 Radon



Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 104**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None****

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	4

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
13m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

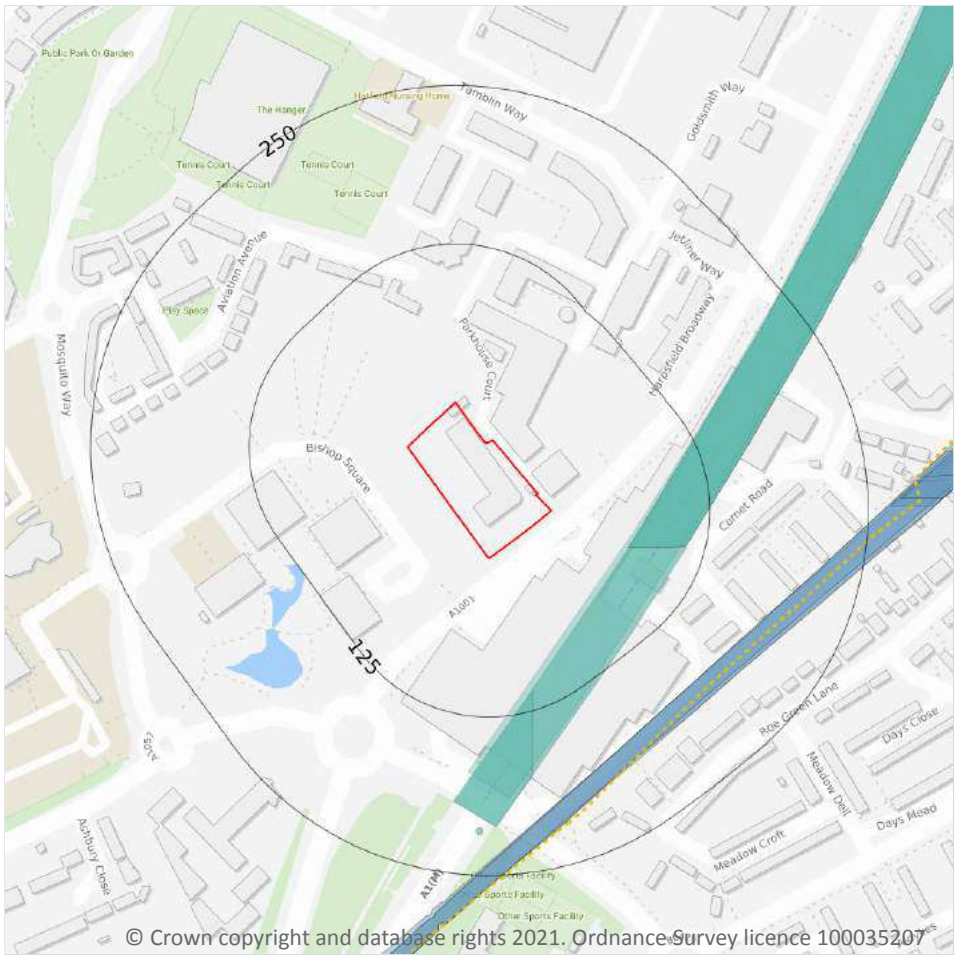
20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	14

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

Features are displayed on the Railway infrastructure and projects map on **page 107**

Location	Land Use	Year of mapping	Mapping scale
63m SE	Tunnel	1988	10000
67m SE	Tunnel	1992	1250
67m SE	Tunnel	1988	1250
67m SE	Tunnel	1990	1250
67m SE	Tunnel	1992	1250
68m SE	Tunnel	1992	1250
109m S	Tunnel	1993	1250
109m S	Tunnel	1988	1250
109m S	Tunnel	1992	1250
176m SE	Railway	1939	-
176m SE	Railway	1924	-
176m SE	Railway	1898	-
212m S	Tunnel	1988	1250
212m S	Tunnel	1992	1250

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	2

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

Features are displayed on the Railway infrastructure and projects map on **page 107**

Location	Description
186m SE	Abandoned
217m S	Dismantled

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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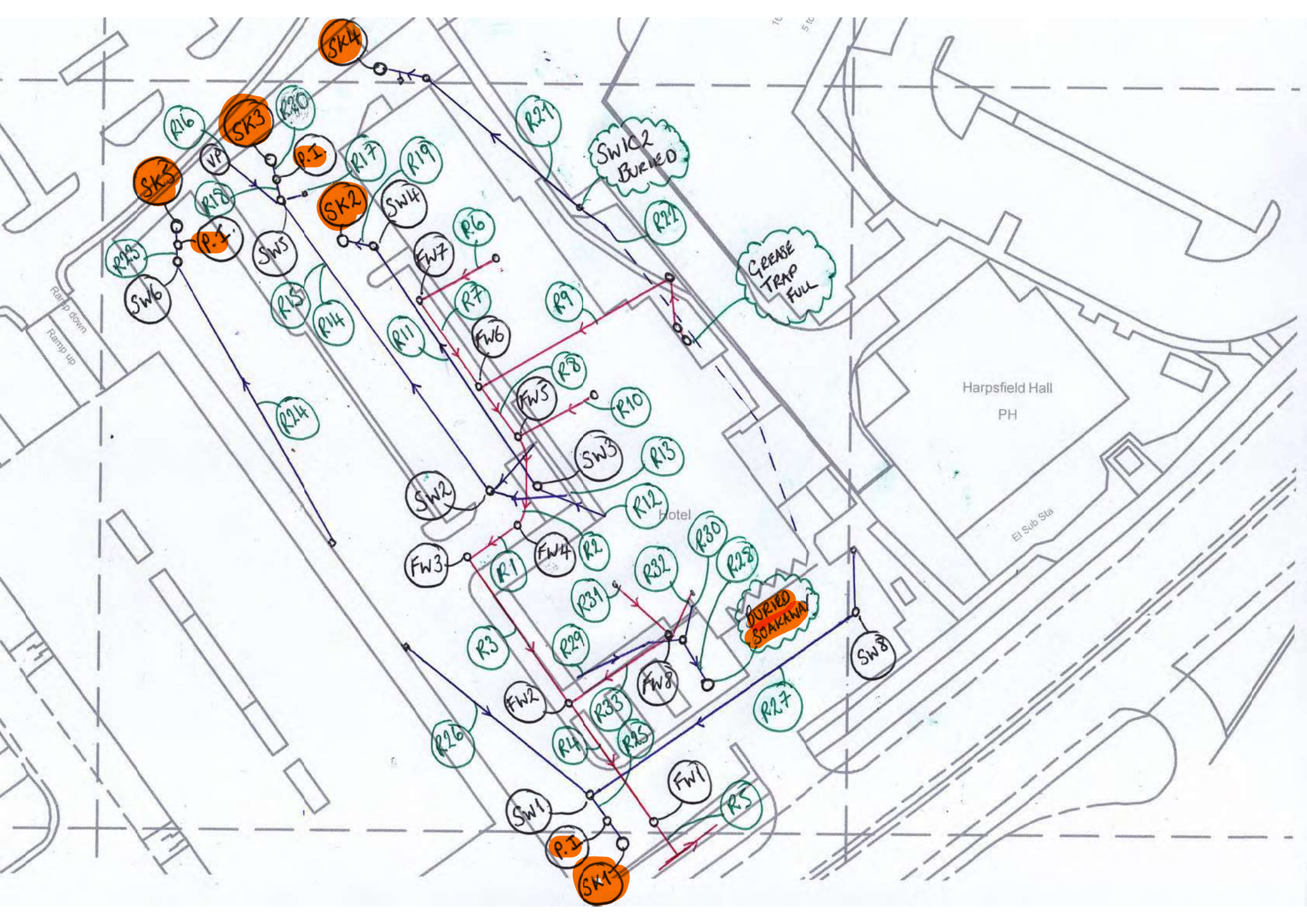
Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

APPENDIX 5: DRAINAGE SURVEY PLAN

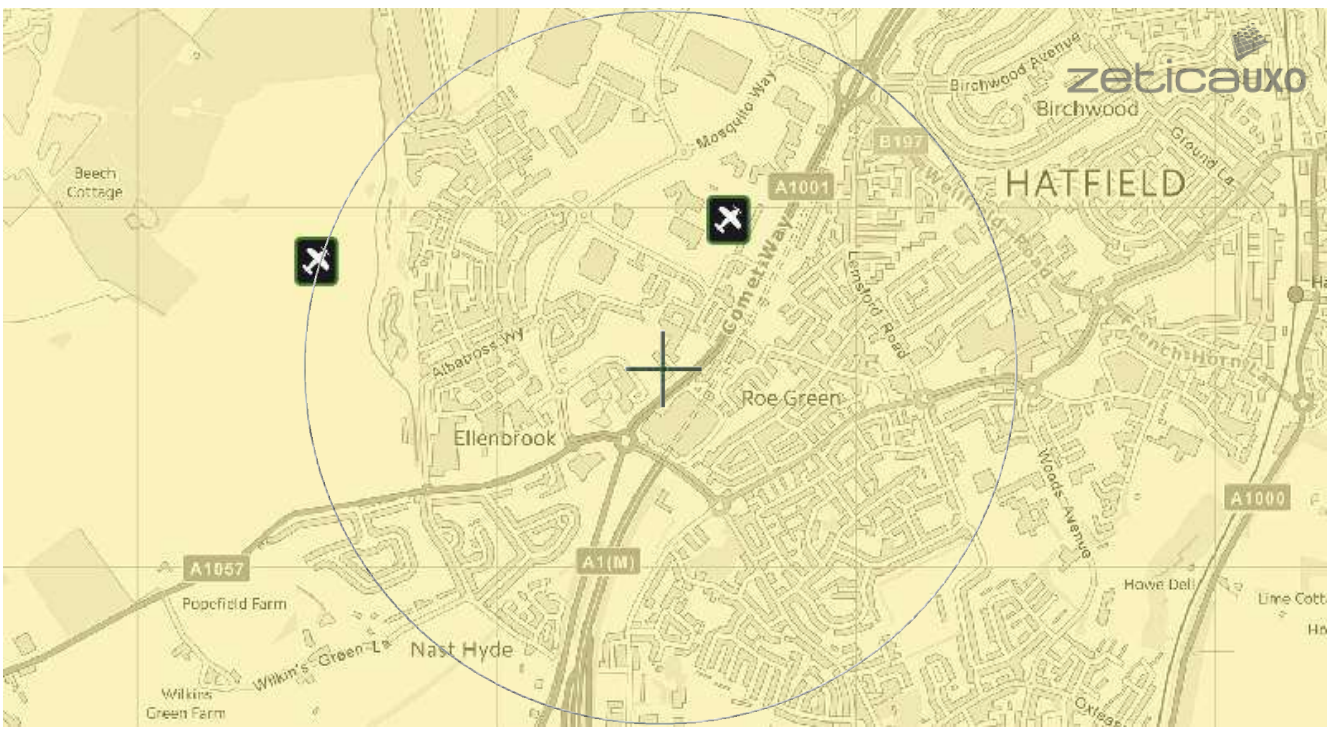

SK4
SK3
SK5
SK2
SK1
R16
R20
VP
P.1
R17
R19
R18
SW4
SW5
R6
FW7
R7
R15
R14
R11
FW6
R9
R8
FW5
R10
SW3
R13
SW2
R12
FW3
FW4
R2
R1
R30
R28
R32
R31
R3
R29
FW8
FW2
R33
R4
R23
R26
FW1
R5
SW1
P.1
R24
R25
SW6
R21
SW1&2 BURIED
R22
GREASE TRAP FULL
BURIED SOAKAWAY
SW8
R27
Ramp down
Ramp up
Harpsfield Hall
PH
Hotel
El Sub Sta

APPENDIX 6: PRELIMINARY UXO ASSESSMENT

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Location: AL10 9NG,
Map Centre: 521468,208556



LEGEND

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

miltary	**industry**	**UXO find**
transport	**dock**	**Luftwaffe targets**
utilities	**Bombing decoy**	**other**

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

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

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

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

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

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

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

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

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

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

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

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

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

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

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

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