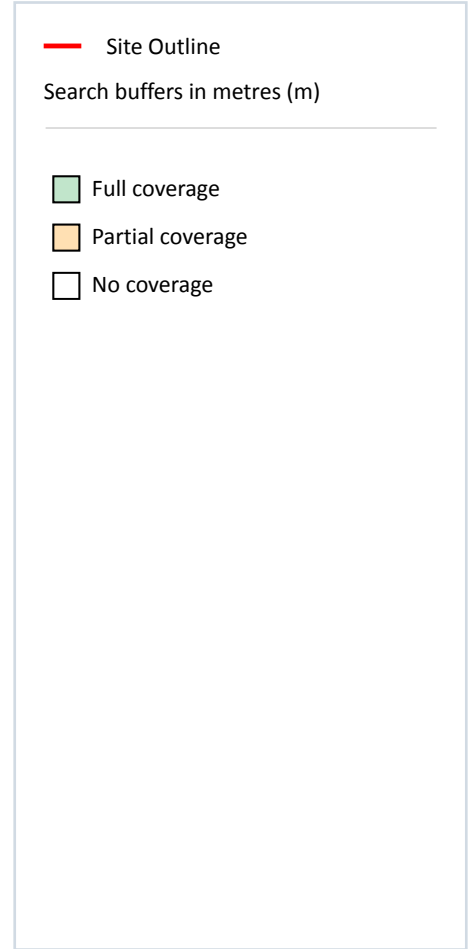


14 Geology 1:10,000 scale - Availability



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 76**

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)

○ 500

○ 1000

□ 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 80**

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

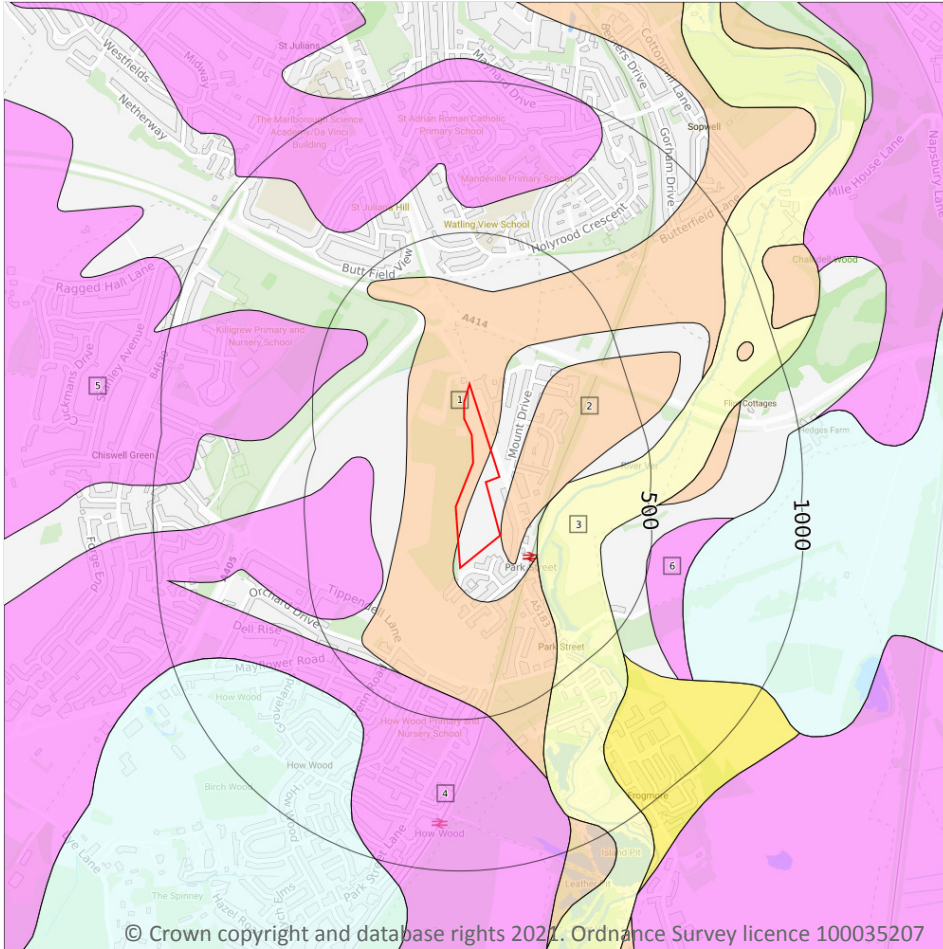
0

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

6

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 82**

ID	Location	LEX Code	Description	Rock description
1	On site	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL
2	2m E	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL
3	123m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	255m W	KGCA-XSV	KESGRAVE CATCHMENT SUBGROUP	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	360m W	KGCA-XSV	KESGRAVE CATCHMENT SUBGROUP	SAND AND GRAVEL
6	491m 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

2

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	Intergranular	Very High	High
2m NE	Intergranular	Very High	High

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

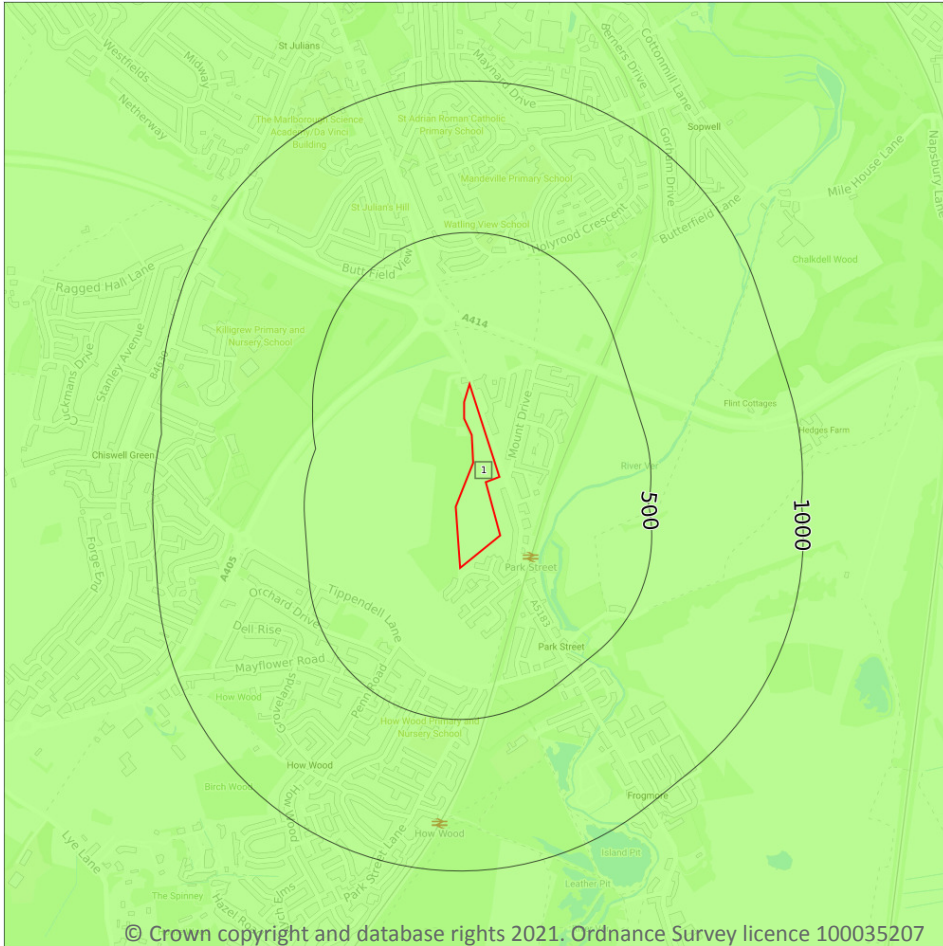
0

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	1
---------------------	----------

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 84**

ID	Location	LEX Code	Description	Rock age
1	On site	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

16.1 BGS Boreholes

Records within 250m

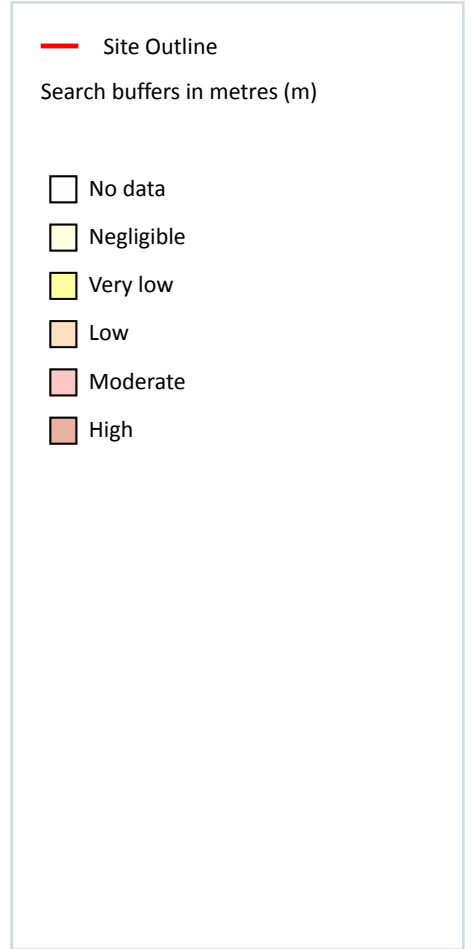
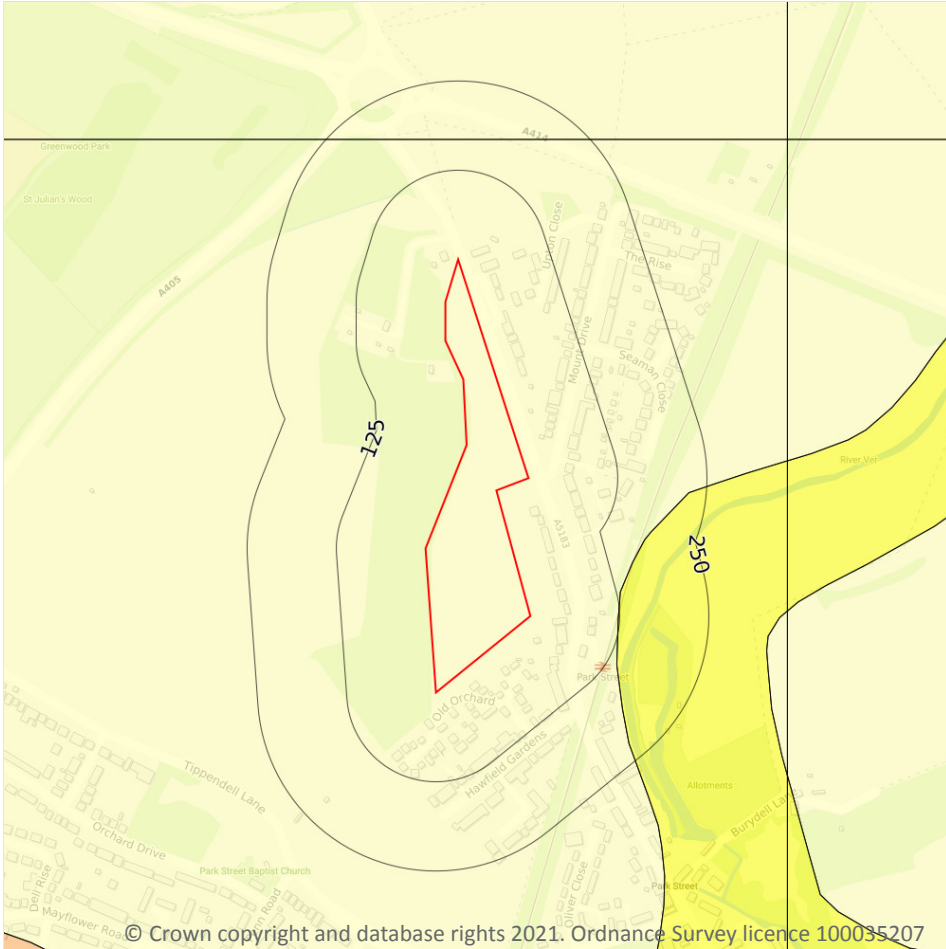
0

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.

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

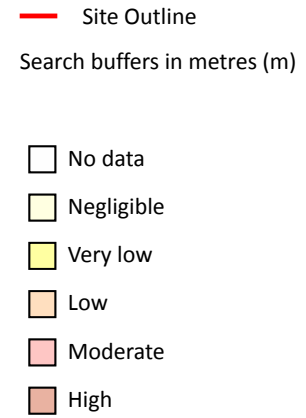
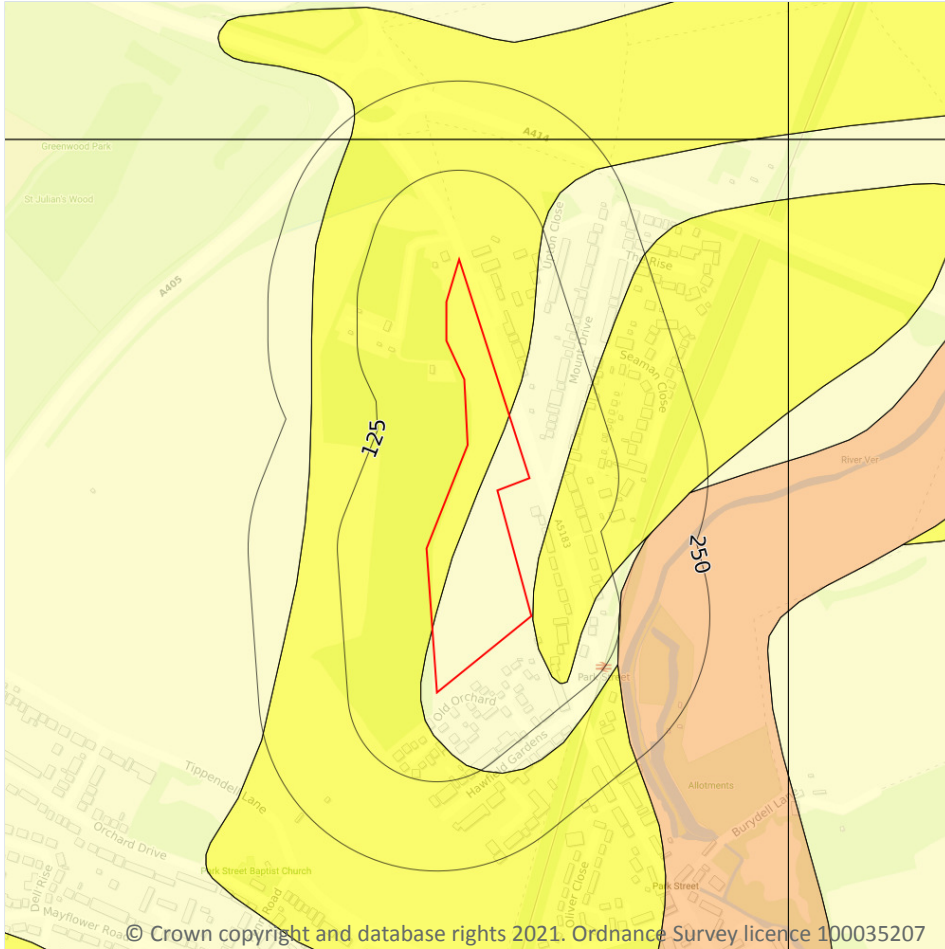
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 87**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

3

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 88**

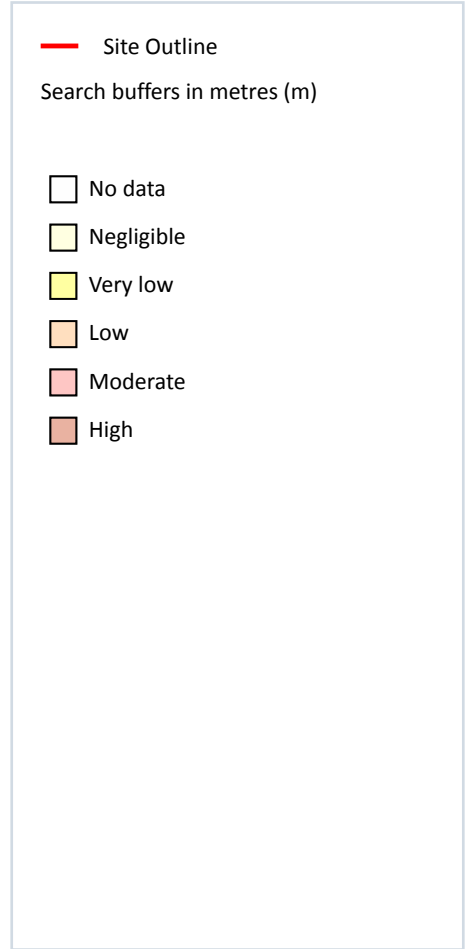
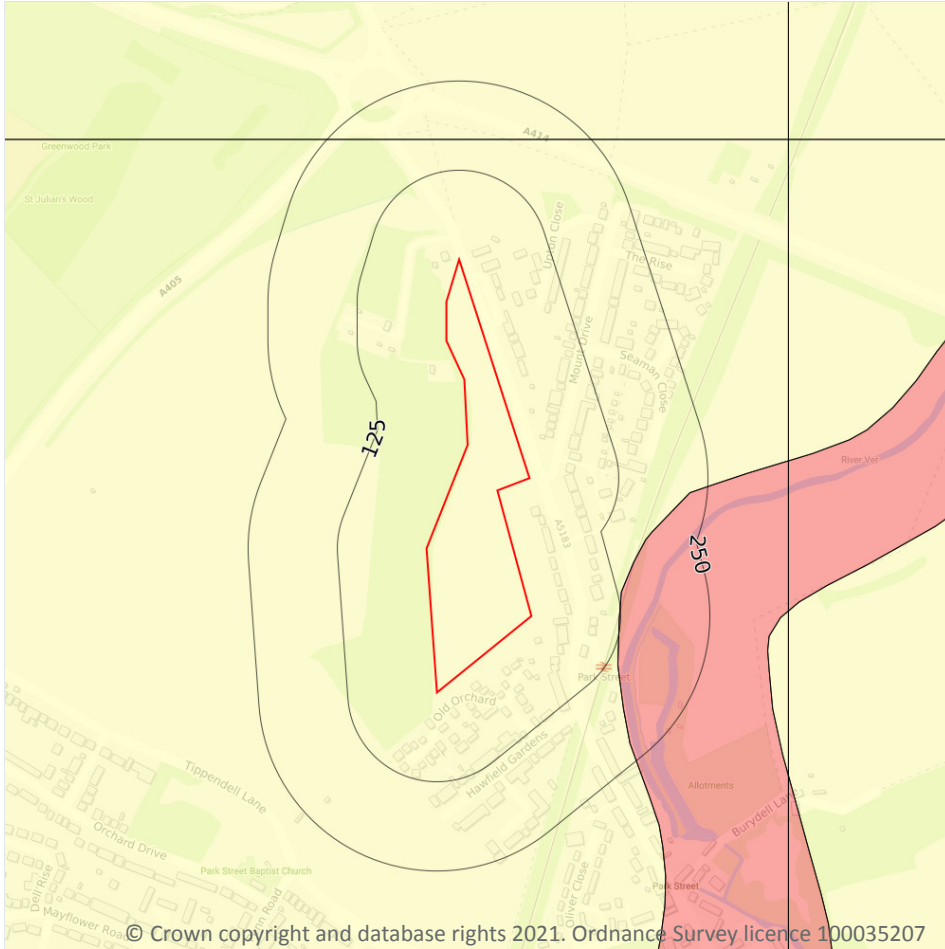
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
2m E	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



17.3 Compressible deposits

Records within 50m

1

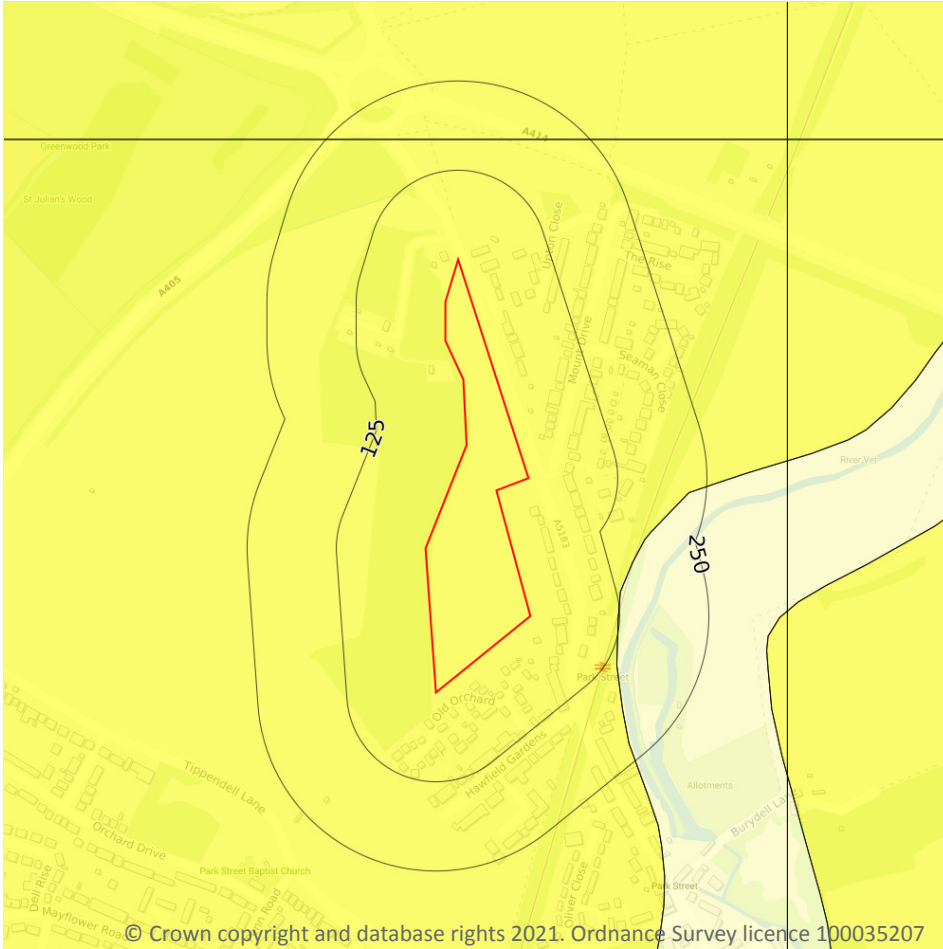
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 90**

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



17.4 Collapsible deposits

Records within 50m

1

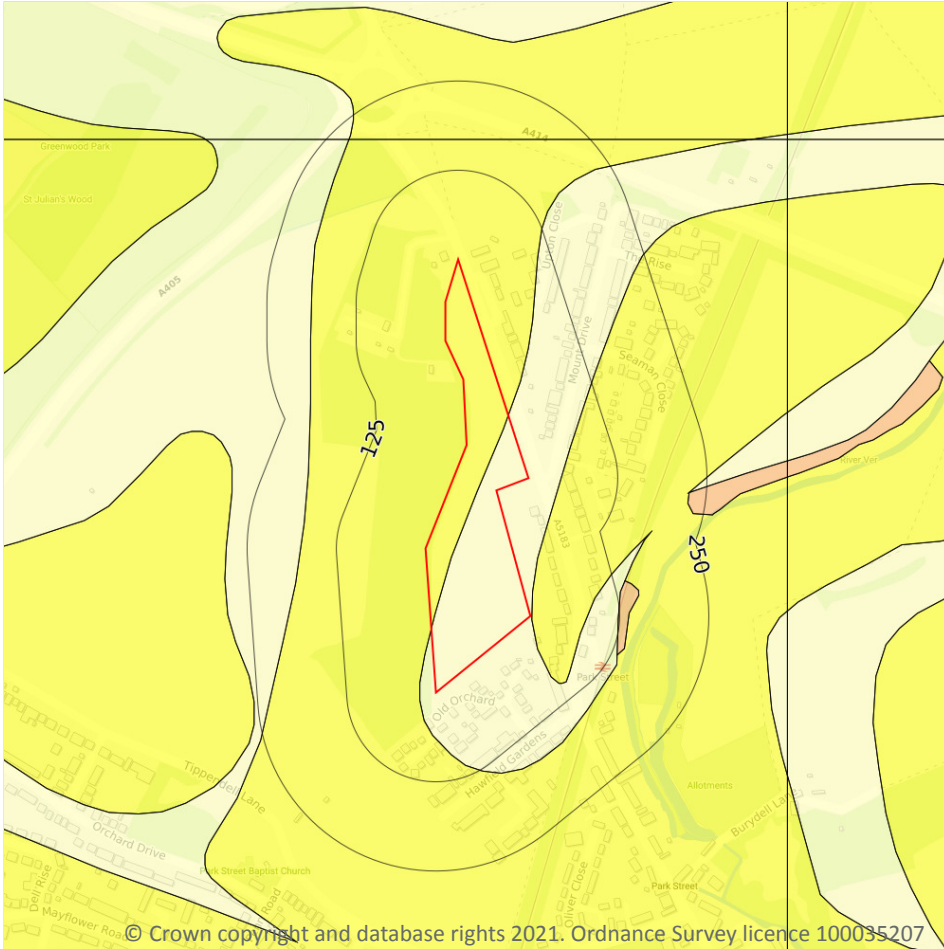
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 91**

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



17.5 Landslides

Records within 50m

2

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 92**

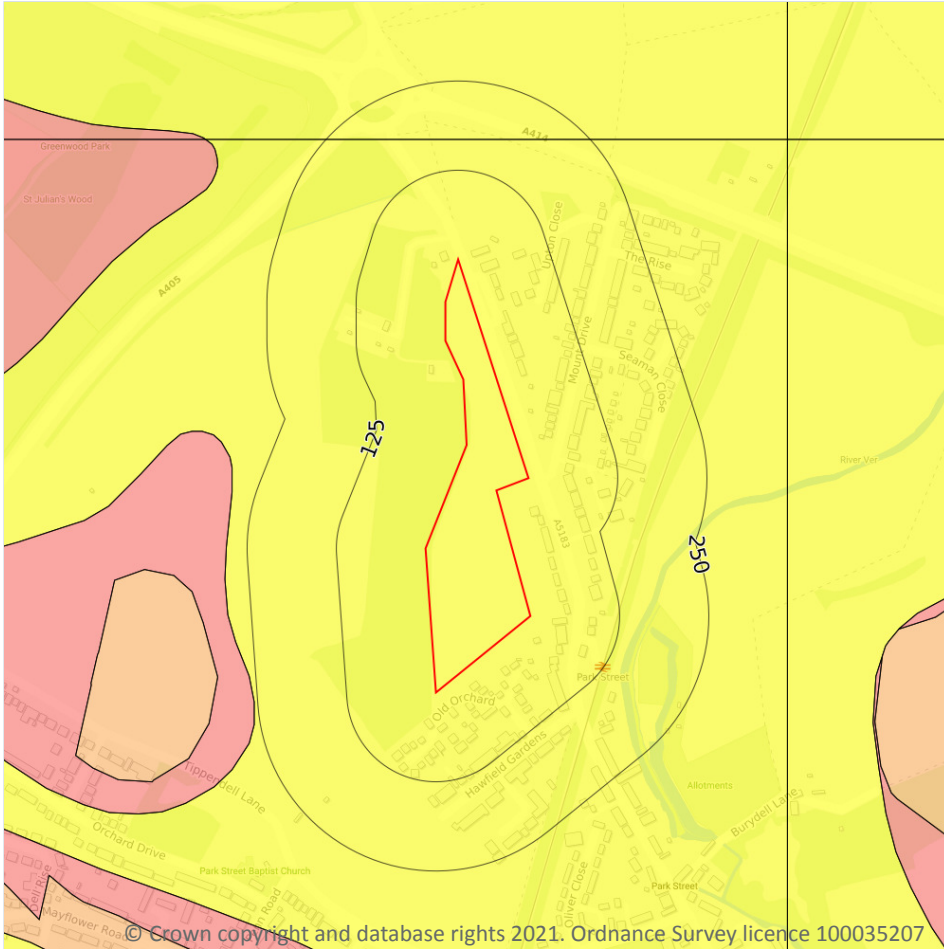
Location	Hazard rating	Details
On site	Negligible	Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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.

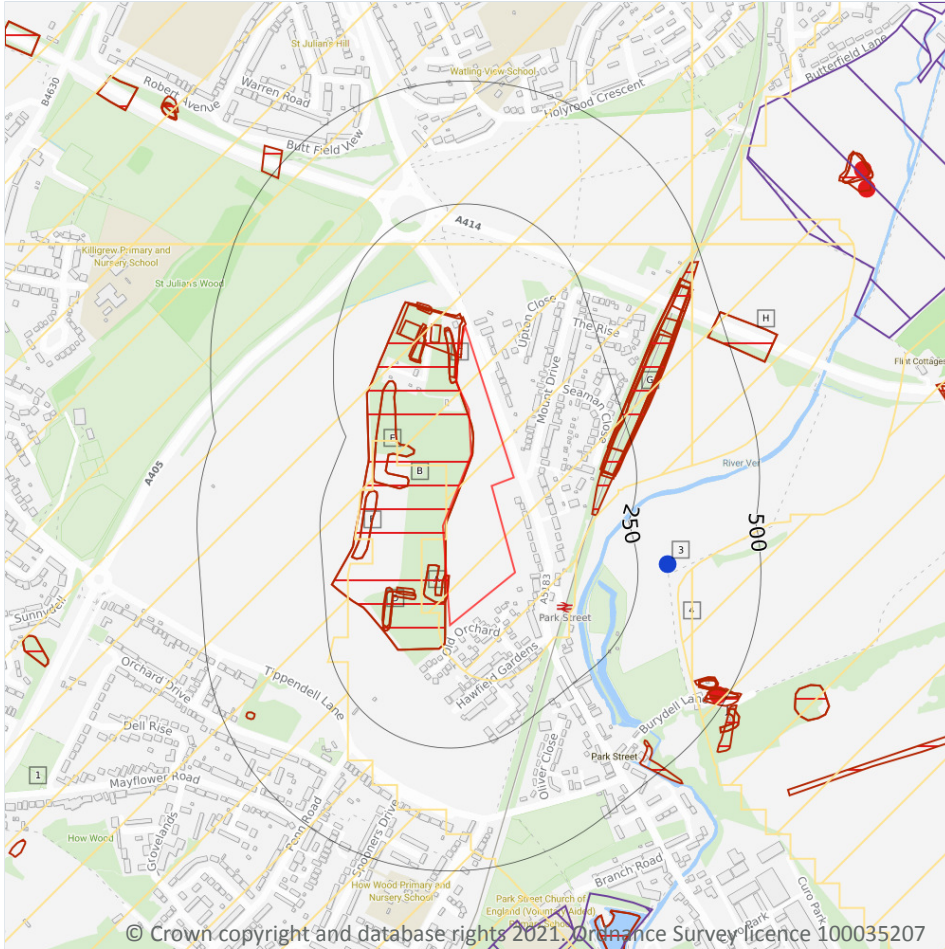
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 94**

Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

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

1

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 96**

ID	Location	Details	Source
3	310m E	Type: Solution Pipe x 3 Superficial Geology: Alluvium 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

1

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 96**

ID	Location	Details	Description
J	482m SE	Name: Berry Dell Address: Park Street, ST ALBANS, Hertfordshire Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

30

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 96**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Heap	1989	1:10000
A	On site	Unspecified Heap	1974	1:10000
B	On site	Sewage Works	1938	1:10560
B	On site	Sewage Works	1922	1:10560
C	On site	Unspecified Heap	1938	1:10560
C	On site	Unspecified Heap	1922	1:10560
C	On site	Sewage Works	1897	1:10560
C	2m W	Unspecified Heap	1964	1:10560
C	42m W	Ponds	1964	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
D	66m W	Unspecified Heap	1938	1:10560
D	66m W	Unspecified Heap	1922	1:10560
D	67m W	Unspecified Heap	1964	1:10560
C	69m W	Ponds	1938	1:10560
C	69m W	Ponds	1922	1:10560
C	72m W	Ponds	1964	1:10560
C	75m NW	Unspecified Ground Workings	1922	1:10560
C	78m NW	Unspecified Heap	1964	1:10560
C	87m W	Filter Tanks	1897	1:10560
E	97m W	Unspecified Heap	1989	1:10000
E	97m W	Unspecified Heap	1974	1:10000
D	112m W	Unspecified Heap	1964	1:10560
F	141m W	Unspecified Heap	1989	1:10000
F	141m W	Unspecified Heap	1974	1:10000
G	170m E	Cuttings	1878	1:10560
G	177m E	Cuttings	1964	1:10560
G	178m E	Cuttings	1922	1:10560
G	180m E	Cuttings	1938	1:10560
G	180m E	Cuttings	1897	1:10560
G	201m E	Cuttings	1989	1:10000
G	201m E	Cuttings	1974	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.



18.5 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
7

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 96**

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
2	168m N	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
4	334m E	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
5	360m E	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
H	364m E	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
9	491m E	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
-	967m NW	Not available	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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m **0**

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.

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
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

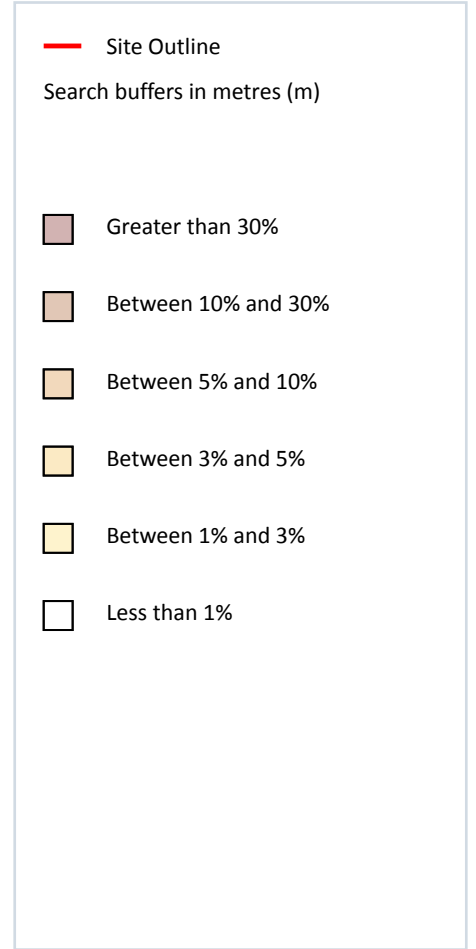
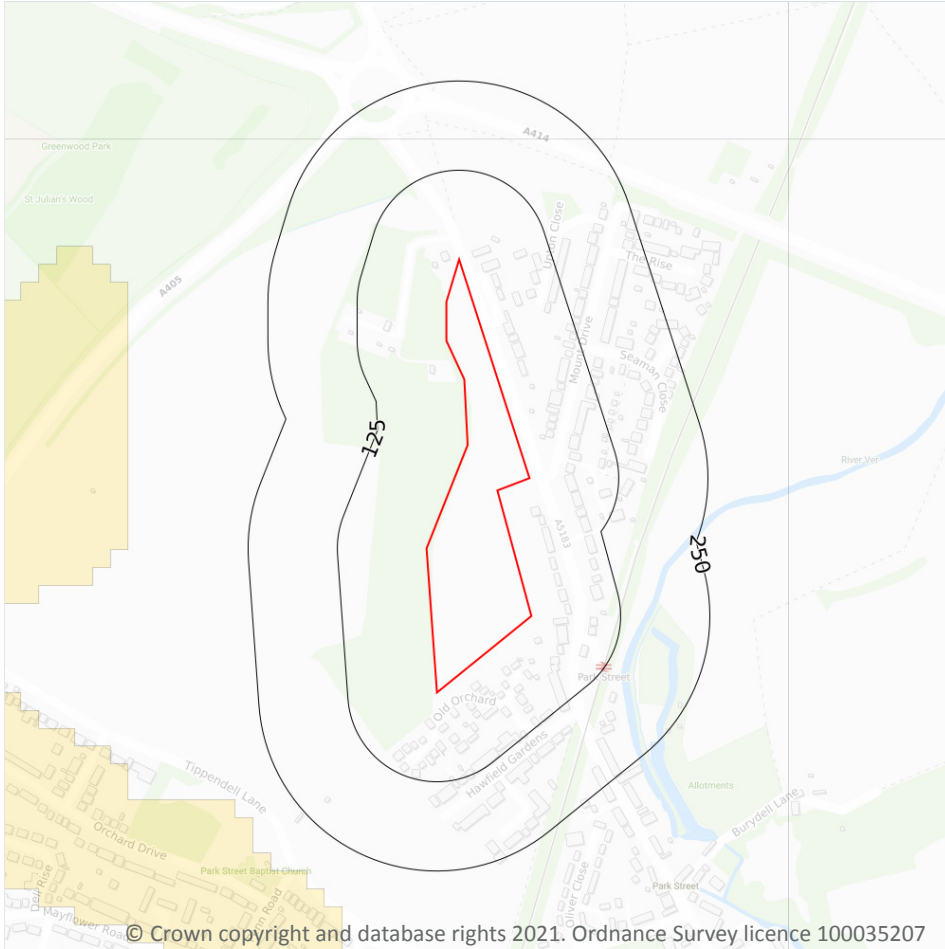
18.13 Clay mining

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



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 102**

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
9

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 km². 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 km²; 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 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
1m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
2m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
21m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
44m NE	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 km²).

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

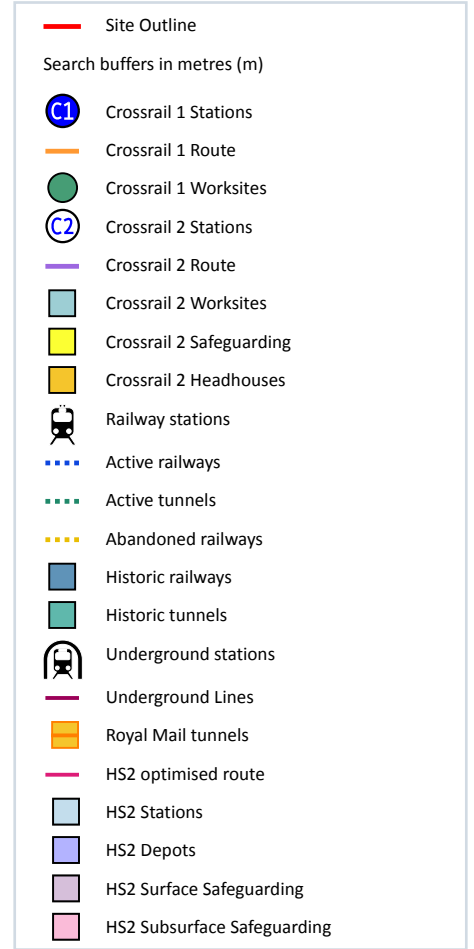
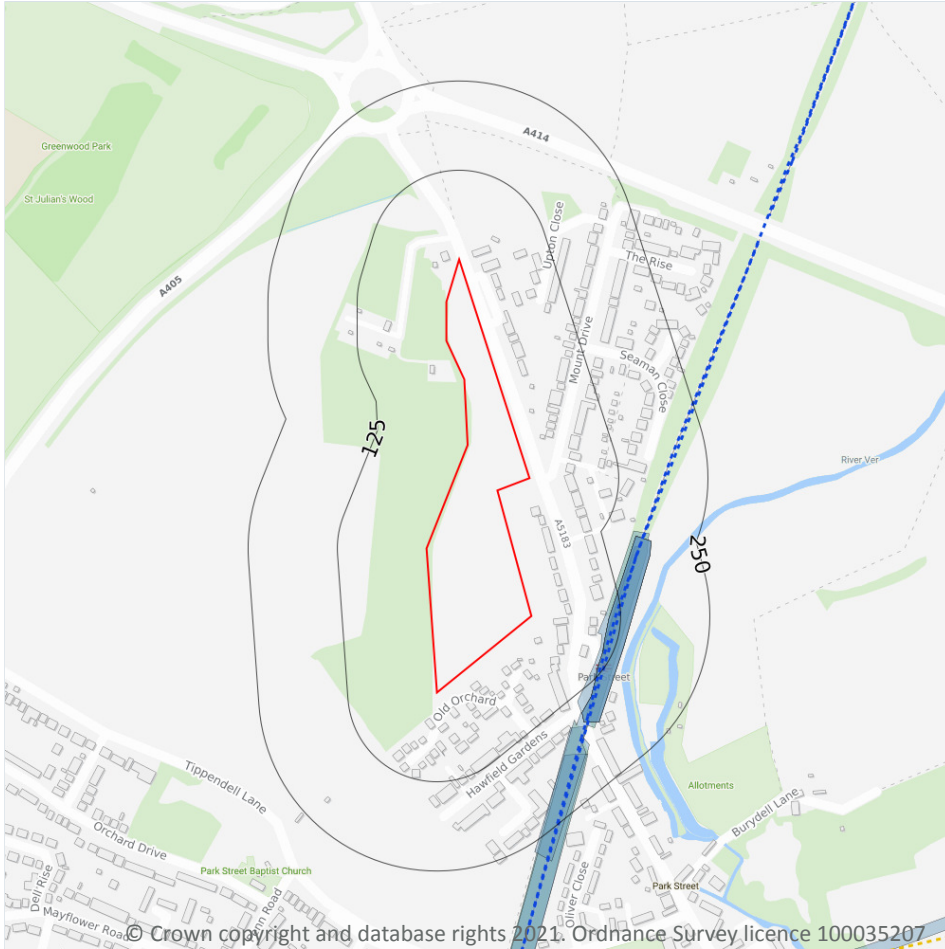
0

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 km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



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

13

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 105**

Location	Land Use	Year of mapping	Mapping scale
96m E	Railway Sidings	1964	10560
107m E	Railway Sidings	1938	10560
107m E	Railway Sidings	1922	10560
107m E	Railway Sidings	1897	10560
109m E	Railway Sidings	1963	1250
109m E	Railway Sidings	1966	2500
110m E	Railway Sidings	1898	2500
110m E	Railway Sidings	1924	2500
110m E	Railway Sidings	1937	2500
110m E	Railway Sidings	1992	1250
114m SE	Railway Sidings	1992	1250
156m SE	Railway	1938	-
181m SE	Railway	1872	-

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

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

5

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways. Features are displayed on the Railway infrastructure and projects map on **page 105**

Location	Name	Type
113m E	Watford Junction - St Albans Abbey Line	rail
118m E	Not given	Single Track
159m SE	Watford Junction - St Albans Abbey Line	rail
163m E	Not given	Single Track
176m SE	Watford Junction - St Albans Abbey Line	rail

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>.

Terms and conditions

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



Zetica UXB Risk Maps

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Map Centre: 514522,204506



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.

- military
- 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/>)

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

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'.

Chalk Cavities Database Search



Your Ref: PO-09638-C-20880
Our Ref: 3325//CBH/CNE/FBI

14 September 2021

Hydrock
Hawthorn Park,
Holdenby Road,
Spratton,
NN6 8LD

Attention of: Sophie Dauksta

Dear Ms Dauksta,

RE: STANTEC FACTUAL CAVITIES DATABASES SEARCH FOR THE SITE AT LAND WEST OF WATLING STREET, PARK LANE, ST ALBANS.

We refer to your email dated 07 September 2021, regarding the above. We thank you for your instruction to carry out a factual search of the Stantec Natural and Non-Coal Mining Cavities Databases for the above-named site.

The Cavities Databases search has been carried out for the site centred at National Grid Reference TL 14557 04468.

NATURAL CAVITY RECORDS

A search of the Stantec Natural Cavities Database indicated that there is one natural cavity record within 1km of the site centre, as shown in Table 1 below.

Table 1: Stantec Natural Cavities Database records

Approximate NGR	Approximate distance from site centre (m)	Recorded Location	Geology	Natural Cavity Details	Source
TL 1495 0435	320 (SE)	River Ver Floodplain, Park Street, Chiswell Green, Hertfordshire	Superficial: Alluvium Solid: Chalk Group	3 x Solution Pipes	British Geological Survey

MINING CAVITY RECORDS

A search of the Stantec Mining Cavities Database indicated that there are no man-made mining cavity records within 1km of the site centre. The closest recorded mining cavity record is located approximately 1.3km north of the site in the form of a shaft entry pillar & stall chalk mine.

Caversham Bridge House
Waterman Place
Reading
Berkshire RG1 8DN

Telephone: +44 (0)118 950 0761
email: PBA.Reading@stantec.com

Registered Office:
Stantec UK Ltd
Buckingham Court
Kingsmead Business Park
Frederick Place, London Road
High Wycombe HP11 1JU
Registered in England No. 1188070

Subject to the following note, according to Stantec Cavities Databases, no records pertaining to natural or mining cavities appear to be present within the site footprint. We draw your attention to the fact that the absence of, or the presence of, existing records for the site should not be considered conclusive – the information provided is indicative only. For any decision on investment, construction or any other actions relating to the project, further investigations will be required to confirm ground conditions.

We trust that the information presented will assist you, but if you have any queries then please do not hesitate to contact the writer. We will invoice for this work at the end of the month and our payment terms are strictly 28 days.

Yours sincerely,

p.p. *ME*Edmonds

Stuart Chandler
Associate
on behalf of Stantec UK Ltd

This report has been prepared by Stantec UK Limited ('Stantec') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which Stantec was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). Stantec accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

The work undertaken by Stantec was carried out on a fixed fee basis and in accordance with our Standard Terms and Conditions, a copy of which is attached to this report.

IN NO EVENT SHALL STANTEC BE LIABLE FOR ANY LOSS OR DAMAGE INCLUDING, WITHOUT LIMITATION, INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE ARISING FROM THE USE OF THE DATA FROM THE STANTEC CAVITIES DATABASES.

The Natural Cavities & Mining Cavities Databases have been compiled by Stantec (Stantec Cavities Databases). They contain information collected since the 1980s from multiple sources including: academic publications, public/business organisations, online resources and commercial project experience. The databases are managed and updated with new records at regular intervals. The Stantec Cavities Databases provide information to aid further assessment and should not be used alone to make final decisions on investment or construction on a site as further investigation may be necessary. Given the challenges of source data diversity, quality and age the Stantec Cavities Databases cannot guarantee to contain a complete set of information relevant to a site, sometimes records may have been inaccurately positioned, incorrectly interpreted or missed. The data is not intended to be used in place of obtaining professional advice for a specific project. The Stantec Cavities Databases are copyrighted and shall be treated as confidential information and must not, without the prior written consent of Stantec, be disclosed to a third party.

Reports prepared by others

Sitecheck Combined



Contaminated Land

FURTHER ACTION

Professional Opinion

Plausible contaminant linkages have been identified and soil and groundwater liabilities could occur. Accordingly, potential Liabilities have been identified under the relevant contaminated land legislation.



Flooding

PASSED

Professional Opinion

Moderate - Data suggest that there are features which may present a flood risk to the site and its occupants during an extreme flood event. However, buildings and contents insurance should easily be available in most cases. It would be prudent to consider the measures outlined in the Recommendations section.



Other Environmental Hazards

No other Environmental Hazards have been identified in the immediate vicinity of the site.

This report is issued for the property described as:

Land at Watling Street
St Albans

Report Reference:

115447426_1
831040124#195103072

National Grid Reference:

514564E, 204475N

Client Reference:

Park Street_SAF

Report Date:

23rd February 2017

Contact Details

If you require any assistance please contact our customer services team on **0844 844 9966**

or email

helpdesk@landmark.co.uk

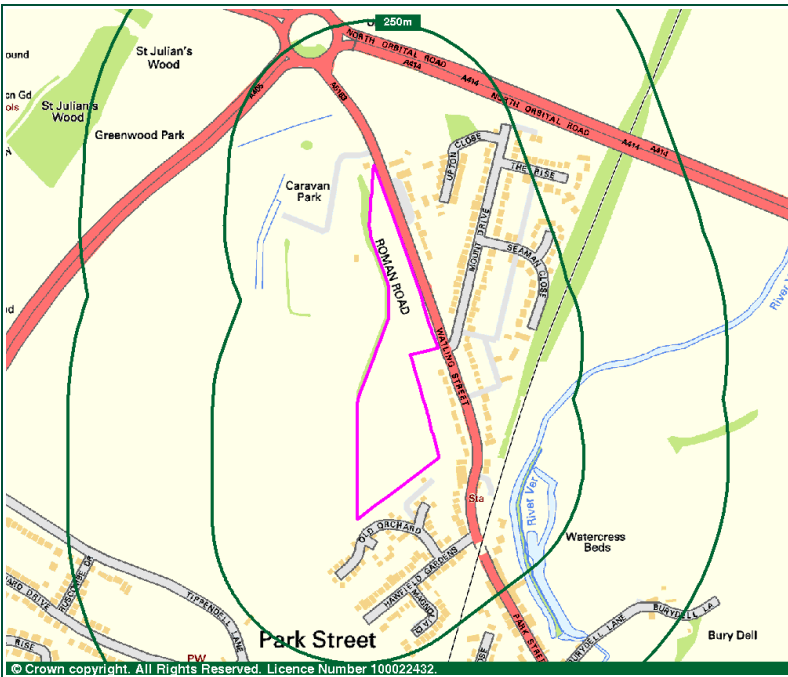


Site Location



Aerial Photograph

250m Search Band



Location Plan

Land at Watling Street, St Albans

Grid Reference 514564, 204475

Executive Summary

Risk

Contaminated
Land



Evaluation



Further action

Liability Assessment

Potential Liabilities have been identified under Part 2A of the Environmental Protection Act 1990 (or where appropriate, equivalent requirements under the planning regime) and/or the Water Resources Act 1991. To quantify these you may decide to undertake a more detailed assessment through the recommendation(s) set out below.

Recommendations

In order to revise the risk assessment provided, additional information will need to be reviewed. If any of the information below is available, please consider taking advantage of our free re-review service. Please forward this to our customer services team using the following email address: helpdesk@landmarkinfo.co.uk

This could include:

1. Confirmation or commentary from the Local Authority Environmental Health Department that they are not considering taking any action against the Site under Part 2A of the Environmental Protection Act 1990.
2. Confirmation or commentary from the Local Authority Planning Department, that any recent redevelopment of the site included ground investigations and/or remediation works undertaken to their satisfaction resulting in discharge of any associated conditions.

However if no information is available or the information you send us is insufficient, we can collect and review additional information for you for £450 plus VAT.

Please call 0845 4585250 to discuss these options in more detail.

If the Site is operational you should consider undertaking an Environmental Audit in order to investigate current operational environmental liabilities, compliance issues and any historical legacy that the Site owner may be exposed to. We can offer a contaminated land, compliance and other environmental audits from £950 + VAT.

Please call 0845 4585250 to discuss the audit options in more detail.

Advisory note: A warranty or similar guarantee, environmental indemnity or Contaminated Land insurance Policy would transfer risk identified in the context of the report, subject to its validity, wording and terms.



Consultant's Comment

Data suggest that there are features which may present a flood risk to the site and its occupants during an extreme flood event. However, buildings and contents insurance should easily be available in most cases.





- | | | |
|---|--|----------------|
| 1 | If development is proposed would a detailed Flood Risk Assessment be required? | Yes (Drainage) |
| 2 | What is the overall risk of flooding, assuming defences fail or are absent or over-topped? | Moderate |
| 3 | Are there existing flood defences that might benefit the site? | Yes |
| 4 | What is the risk of flooding when these defences are operational? | Moderate |

Recommendations

1. The Site is within an area that is at a risk of flooding during extreme storm events. While you may not consider property level protection measures to be a cost effective solution, we would recommend formalising a flood action plan to ensure that you minimise damage and reduce business interruption should a flood event occur. Appropriate steps should include:
 - Signing up to the Environment Agency's (EA) Flood Warning and Flood Alert Service in order to receive updates on impending flood events;- Design a flood evacuation plan supplemented by flood training for all employees to ensure readiness in the event of a flood; and- Prepare a business continuity plan comprising a list of actions to reduce disruption, protect your property, stock and important documentation and assist with the recovery.
 More information can be found on the 'Know Your Flood Risk Website'
<http://www.knowyourfloodrisk.co.uk/>.
2. You should ask the seller and other nearby property owners whether or not flooding has occurred in the area previously. If it has, what was the impact and where were the affected areas;
3. Finally, prior to exchanging contracts, establish the terms of buildings and contents insurance for the property.



Contaminated Land Risk Analysis

Investigation	Commentary
 On-site sources	<p>A review of historical mapping has revealed no historical or current potentially contaminative uses on site. However, a Historical Landfill and a Local Authority Recorded Landfill have been identified at the site. Data indicates that these are located adjacent to the west.</p>
 Off-site sources	<p>The following potentially contaminative historical land uses were identified in proximity to the Site from 1:10,000 and 1:10,560 scale maps: sewage (adjacent to the west) and electricity industry facilities (23m north).</p> <p>According to trade directories, current or recent operations in proximity to the site include used car dealers (12m north).</p> <p>Furthermore, the aforementioned landfill extended into the surrounding area.</p>
  Pathways and receptors	<p>With reference to Environment Agency data, the superficial hydrogeology underlying the site is classified as a Secondary (A) Aquifer (deposits with moderate permeability). The bedrock hydrogeology is classified as a Principal Aquifer (highly permeable formations).</p> <p>According to the Environment Agency the site lies within a Zone II Source Protection Zone (SPZ). An SPZ is a protection zone placed around a well or borehole that supplies groundwater of potable quality. There are no abstraction licences located within 25m. There are no surface water features within 25m.</p> <p>Current Ordnance Survey mapping indicates residential properties within a 25m radius of the site. In addition, site users, buildings and services are considered sensitive receptors due to the potential for volatile gases and aggressive ground conditions in light of historic land uses. Finally, no designated eco-receptors were identified within a 25m radius of the site.</p>
Additional Sources of Information	<p>No additional materials have been used in this assessment.</p>

Consultant's Conclusion

Considering the information reviewed during this assessment, a number of plausible contaminant linkages have been identified. Soil and groundwater liabilities could arise whether or not redevelopment is considered.

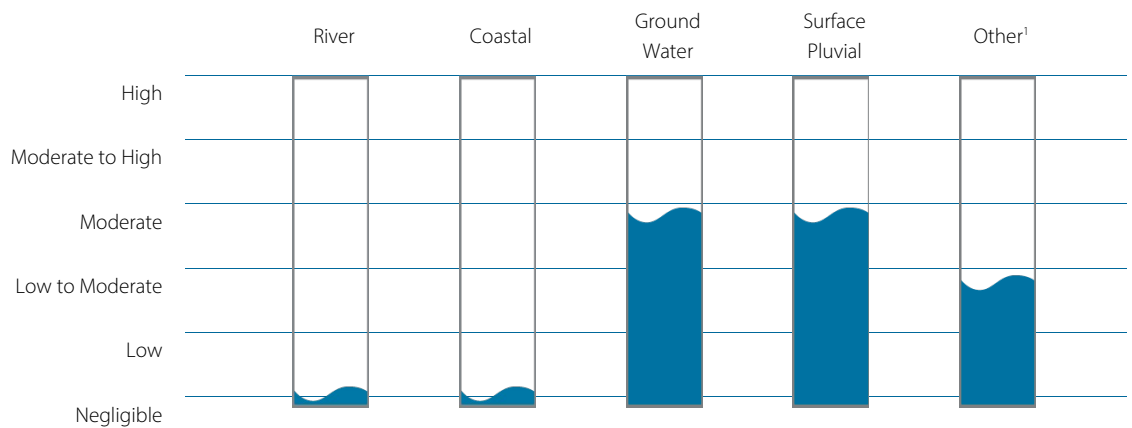
Please refer to risk analysis methodology section for further guidance and definition of terms.



Flood Risk Screening

	Risk	Issue	Evaluation
1	Development	If development is proposed would a detailed Flood Risk Assessment be required?	Yes (Drainage)
2	Flooding	What is the overall risk of flooding, assuming defences fail or are absent or over-topped?	Moderate
3	Flood Defences	Are there existing flood defences that might benefit the site?	Yes
4	Effect	What is the risk of flooding when these defences are operational?	Moderate

Insurance The flood risk identified is unlikely to affect obtaining buildings and contents insurance.

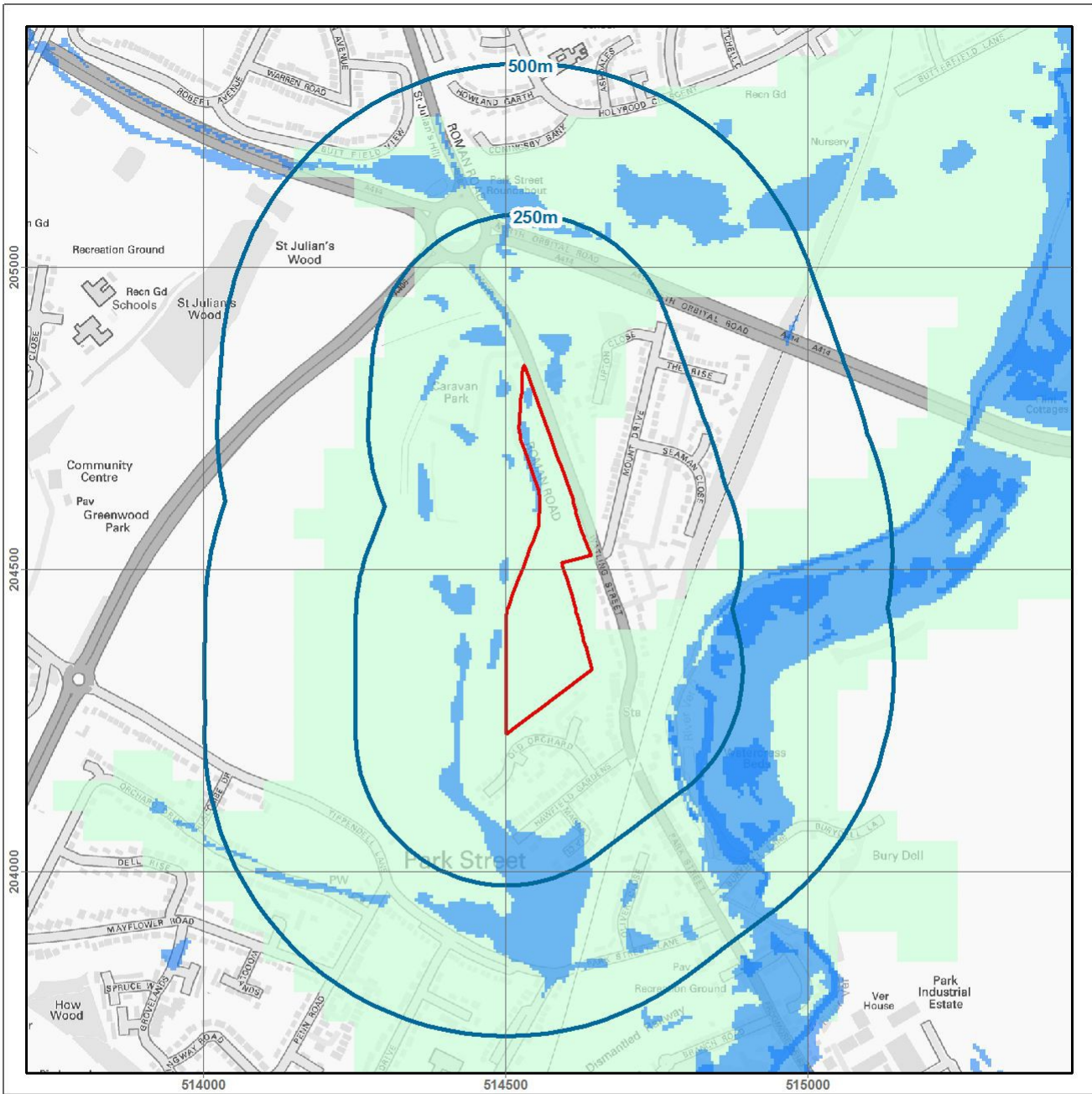


Recommendations





- The Site is within an area that is at a risk of flooding during extreme storm events. While you may not consider property level protection measures to be a cost effective solution, we would recommend formalising a flood action plan to ensure that you minimise damage and reduce business interruption should a flood event occur. Appropriate steps should include:
 - Signing up to the Environment Agency's (EA) Flood Warning and Flood Alert Service in order to receive updates on impending flood events;
 - Design a flood evacuation plan supplemented by flood training for all employees to ensure readiness in the event of a flood; and-
 - Prepare a business continuity plan comprising a list of actions to reduce disruption, protect your property, stock and important documentation and assist with the recovery.
 More information can be found on the 'Know Your Flood Risk Website' <http://www.knowyourfloodrisk.co.uk/>.
- You should ask the seller and other nearby property owners whether or not flooding has occurred in the area previously. If it has, what was the impact and where were the affected areas;
- Finally, prior to exchanging contracts, establish the terms of buildings and contents insurance for the property.

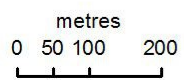
¹Other factors influencing flood risk include historic flood events, geological indicators of flooding, proximate surface water features and elevation above sea level.

Current Flood Risk



Flood and Groundwater Risk

-  Client Site
-  Area at risk of flooding from one source
-  Area at risk of flooding from more than one source
-  Area at risk of groundwater flooding



* - Not all features in legend may be present in above map

Nominal scale at A4 paper size - 1:10,500

Contains Ordnance Survey data © Crown copyright and database right 2015

Flood Risk Management Options

Flooding can often be managed by the installation of flood protection measures either on/within the building(s) or across the site. Flood protection measures can be divided into two categories; flood resistance and flood resilience.

Both flood resistance and flood resilience solutions can be integrated with design proposals for new build properties or retro-fitted to existing properties. Specific flood protection packages can often include both resistance and resilience measures. What is suitable will depend on a number of factors including flood source, likely flood depths, property design and age.

Research conducted by CLG Sustainable Buildings Division and the Environment Agency revealed that installing flood resistance measures may be inappropriate where likely flooding will be deep. Certain types of building construction are unable to resist the pressure load placed on the exterior skin of the building by retained flood waters. Generally a flood depth between 0.6m and 1.0m above ground level is used as a benchmark to decide whether to consider flood resilience measures rather than rely on flood resistance measures. This is dependent on the age and construction of the property.

Guideline Costs for Resistance Measures

Building Feature	Cost Estimate for Baffles (+ VAT)
Standard (900mm) single door	£725 - £875
Standard (1800mm) double entrance door	£850 - £1,000
Large roller shutter door (up to 2,745mm span)	£1600 - £1750
Standard garage door	£1400 - £1575
Standard window (up to 1,240mm span)	£350 - £500
Large window (1,240mm to 2,150mm span)	£550 - £700
Single air brick	£70 - £220
Double air brick	£80 - £230
Building Feature	Cost Estimate for Tanking (+ VAT)
Tanking (of basement, walls or floors)	£25 - £50 per metre ²
System Component	Cost Estimate for Plumbing (+ VAT)
Simple non-return valve	£50
Sophisticated non-return valve	£660 - £800

The costs above are for indicative budget purposes only. They are based on installing components of a standard design and colour. If the site requires bespoke products, these are likely to cost more (for example, if the site is in a conservation area, different colours may be required).






Additional Flooding Considerations

Riparian Ownership	<p>A riparian owner describes anyone who owns a property where there is a watercourse within or adjacent to the boundaries of their property.</p> <p>Under common law, a riparian owner has rights and responsibilities relating to the stretch of watercourse that falls within or beside the boundaries of their land. Their primary responsibility is to keep the watercourse free of any obstructions that could hinder normal water flow. If the riparian owner fails to carry out their responsibilities, this could result in civil action.</p> <p>A riparian owner should also check before carrying out any works near to the edge of a river, as such works may be subject to byelaws. If infringed, this could lead to enforcement action by the Environment Agency.</p> <p>There is a presumption that the boundary between properties abutting a watercourse is the centre line of that watercourse. To confirm whether this is the case, a solicitor should check the deeds or the Index Map.</p> <p>The Environment Agency has published useful guidance "Living on the edge" for owners of land or property alongside a watercourse. Sometimes, the Environment Agency or other organisations managing flood risk, may have statutory rights of access to properties which adjoin a watercourse. This may be for maintenance, repair or rebuilding of any part of the watercourse or for access to or repair of monitoring equipment.</p>
Development Control	<p>Sites which lie close to (but do not adjoin) a watercourse, may be subject to planning controls should redevelopment be considered. The Environment Agency are normally consulted regarding any development within 20m of a Main River and Internal Drainage Boards should be similarly contacted regarding developments close to drainage channels. Navigation authorities are normally consulted regarding any development within 250m of a canal, although this varies on a site by site basis.</p> <p>The Environment Agency should also be contacted with regards to development (other than minor development) in Flood Zones 2 and 3.</p>
Sewer Flooding	<p>In times of extreme rainfall events sewers can overflow and cause local flooding. Ofwat's 'DG5 - At Risk Registers' record properties that have flooded from sewers and are at risk of flooding again, with separate registers for internal and external flooding. The At Risk Registers are maintained by each of the ten water and sewerage companies in England and Wales and details of properties subject to sewer flooding are normally kept for between two and five years. These registers are not necessarily complete as not all episodes of past flooding may be recorded.</p>
Consultant's Comment	<p>Whilst this assessment is primarily a flood risk screening report, you may wish to consider the above potential liability considerations that fall outside the scope of the Flood Risk Screening Methodology.</p>



Other Environmental Hazards

	Risk	Recommendation
	Natural or Mining Related Hazards	No natural or mining related hazards have been identified in the immediate vicinity of the site.
	Telecommunication Base Stations	No telecommunication base stations are located within 100m of the site.
	COMAH	No Control of Major Accident Hazards (COMAH) sites are located within 500m.

Consultant's Comment

This report is primarily a desktop assessment of potential soil and groundwater liabilities. We also comment whether the above Environmental Hazards are relevant. Contact details are provided at the end of this report.



Contents of the Data Section

Section	Description
Tabular Summary	This section presents a tabular summary of information found for the site and surrounding area. The data is presented in three buffer zones for ease of reference: data found at the site, from 1-250m and from 251-500m. If a database has been searched the number of records found will be displayed under the relevant search band. If a database is not available or has not been searched, this will be represented by the abbreviation N/A under the relevant search band.
Current Land Use Mapping	This section provides information on current land uses and is divided into three sections, statutory information, waste and current industrial uses. It is preceded by two maps.
Statutory Information	This section presents detailed statutory information for the site and surrounding area (up to 500m depending upon dataset). The Map ID of each feature is indicated (where applicable) followed by specific information on each feature and its distance and direction from the site. If no data is identified then the section will be omitted.
Waste	This section presents detailed information on waste and landfill sites for the site and surrounding area (up to 500m depending upon dataset). The Map ID of each feature is indicated (where applicable) followed by specific information on each feature and its distance and direction from the site. If no data is identified then the section will be omitted.
Current Industrial Land Use	This section presents detailed information on current land use for the site and surrounding area (0-250m). The Map ID of each feature is indicated (where applicable) followed by specific information on each feature and its distance and direction from the site. If no data is identified then the section will be omitted.
Historical Land Use Mapping	The Historical Land Use Map presents 1:10,000 scale and selected 1:2,500 scale (tanks and energy facilities) historical land use information within 250m of the site boundary.
Historical Land Use	This section presents selected information on historical land use for the site and surrounding area (0-250m). The Map ID of each feature is indicated (where applicable) followed by specific information on each feature and its distance and direction from the site. If no data is identified then the section will be omitted.
Aquifer Designations and Geology	This section is preceded by two maps that present information relating to the aquifer designations beneath the site. The first of these maps indicates the designation of the Superficial geology. The second map presents the aquifer designation of the solid geology. These maps are followed by detailed information in relation to aquifer designations/groundwater vulnerability and geology at the site and surrounding area (0-500m). If no data is identified then the section will be omitted.
Environmental Sensitivity	This section presents detailed information on the environmental sensitivity of the site and surrounding area (up to 500m depending upon dataset) and is preceded by two maps. The first shows areas with statutory designations, the second shows source protection zones. The Map ID of each feature is indicated (where applicable) followed by specific information on each feature and its distance and direction from the site. If no data is identified then the section will be omitted.
Natural and Mining Related Hazards	This section contains information on natural and mining related hazards which may affect the site. These include subsidence, radon and mining.

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Tabular Summary

Statutory Information

Authorisations	On-site	1-250m	251-500m
Local Authority Pollution Prevention and Controls	0	1	N/A
Local Authority Integrated Pollution Prevention and Controls	0	0	N/A
Integrated Pollution Controls	0	0	N/A
Integrated Pollution Prevention And Control	0	0	N/A
Registered Radioactive Substances	0	0	N/A
Discharges	On-site	1-250m	251-500m
Discharge Consents	0	0	N/A
Water Industry Act Referrals	0	0	N/A
Hazardous Sites	On-site	1-250m	251-500m
Control of Major Accident Hazards Sites	0	0	0
Explosive Sites	0	0	0
Notification of Installations Handling Hazardous Substances	0	0	0
Planning Hazardous Substance Consents	0	0	0
Contraventions	On-site	1-250m	251-500m
Contaminated Land Register Entries and Notices	0	0	N/A
Local Authority Pollution Prevention and Control Enforcements	0	0	N/A
Enforcement and Prohibition Notices	0	0	N/A
Planning Hazardous Substance Enforcements	0	0	0
Substantiated Pollution Incident Register	0	0	N/A
Prosecutions Relating to Authorised Processes	0	0	N/A
Prosecutions Relating to Controlled Waters	0	0	N/A

Waste

Waste/Landfill Sites	On-site	1-250m	251-500m
BGS Recorded Landfill Sites	0	1	0
Integrated Pollution Control Registered Waste Sites	0	0	N/A
Licensed Waste Management Facilities (Landfill Boundaries)	0	0	N/A
Licensed Waste Management Facilities (Locations)	0	0	0
Local Authority Recorded Landfill Sites	1	0	0
Registered Landfill Sites	0	0	0
Registered Waste Transfer Sites	0	0	N/A
Registered Waste Treatment or Disposal Sites	0	0	N/A
Historical Landfill Sites	1	0	0

Current Land Use

Current Potentially Contaminative Uses	On-site	1-250m	251-500m
Contemporary Trade Directory Entries	0	5	N/A
Fuel Station Entries	0	1	N/A
Other Features	On-site	1-250m	251-500m
Telecommunication Base Stations	0	0 ²	N/A

Historical Land Use

Historical Potentially Contaminative Uses	On-site	1-250m	251-500m
Historical Tanks And Energy Facilities	0	6	N/A
Potentially Infilled Land	On-site	1-250m	251-500m
Former Marshes	0	0	N/A
Potentially Infilled Land (Non-Water)	0	0	N/A
Potentially Infilled Land (Water)	0	1	N/A

²Telecommunication base stations are only searched to a radius of 100m from the site boundary.

Groundwater Vulnerability

Hydrogeology	On-site	1-250m	251-500m
Superficial Aquifer Designations	1	1	N/A
Bedrock Aquifer Designations	1	1	N/A
Groundwater Vulnerability	1	0	N/A
Geology	On-site	1-250m	251-500m
Low Permeability Drift Deposits	0	N/A	N/A
BGS 1:625,000 Solid Geology	1	N/A	N/A

Environmental Sensitivity

Environmental Sensitivity	On-site	1-250m	251-500m
Areas of Outstanding Natural Beauty	0	0	N/A
Environmentally Sensitive Areas	0	0	N/A
Forest Parks	0	0	N/A
Local Nature Reserves	0	0	0
Marine Nature Reserves	0	0	0
National Nature Reserves	0	0	0
National Parks	0	0	N/A
National Scenic Areas	0	0	N/A
Nitrate Sensitive Areas	0	N/A	N/A
Nitrate Vulnerable Zones	1	N/A	N/A
Ramsar Sites	0	0	0
River Quality Biology Sampling Points	0	0	N/A
River Quality Chemistry Sampling Points	0	0	N/A
Nearest Surface Water Feature	0	1	N/A
Sites of Special Scientific Interest	0	0	0
Special Areas of Conservation	0	0	0
Special Protection Areas	0	0	0
Water Abstractions	0	2	2
Source Protection Zones	2	0	N/A

Natural and Mining Related Hazards

Subsidence	On-site	1-250m	251-500m
Collapsible Ground Stability Hazards	1	0 ³	N/A
Compressible Ground Stability Hazards	1	0	N/A
Ground Dissolution Stability Hazards	1	0	N/A
Landslide Ground Stability Hazards	1	0	N/A
Running Sand Ground Stability Hazards	1	0	N/A
Shrinking or Swelling Clay Subsidence Hazards	1	0	N/A
Non-Coal Mining Hazards	1	1	N/A
Radon	On-site	1-250m	251-500m
Radon Potential	1	N/A	N/A
Radon Protection Measures	1	N/A	N/A
Mining	On-site	1-250m	251-500m
Brine Compensation Areas	0	N/A	N/A
Coal Mining Affected Areas	0	N/A	N/A
Natural and Mining Cavities	0	0	N/A
Mining Instability	0	0	N/A
BGS Recorded Mineral Sites	0	0	N/A

Flooding

Current Flood Risk	On-site	1-250m	251-500m
Flooding From Rivers or Sea	0	1	0
Flooding From Rivers or Sea (in an Extreme Flood)	0	1	0
Areas Benefiting from Flood Defences	0	0	0

³Ground stability hazards are only searched to a radius of 50m from the site boundary.

Flooding			
Flood Storage Areas	0	0	0
Flood Defences	0	2	0
Risk of Flooding from Rivers and Sea	0	4	1
Groundwater Flood Risk	3	0	0
Surface Water Flooding (1:75 year rainfall event)	2	0	1
Surface Water Flooding (1:200 year rainfall event)	2	1	0
Surface Water Flooding (1:1,000 year rainfall event)	2	1	0
Historical Flooding	On-site	1-250m	251-500m
Historical Flood Events	0	0	0
Geological Indicators of Flooding	0	2	0

Tabular Summary Explanation

Landmark has carefully selected a range of datasets which are considered appropriate for the intended use of this report. Each dataset is searched to a set radius from the site boundary and the tabular summary is divided into different search bands accordingly. If a database is searched and information is found, then the number of records available are detailed in the table above. If the database was searched and no data was found, then a zero will be present. If a database was not searched then the abbreviation N/A will be found, indicating this information was not available at the radius searched.

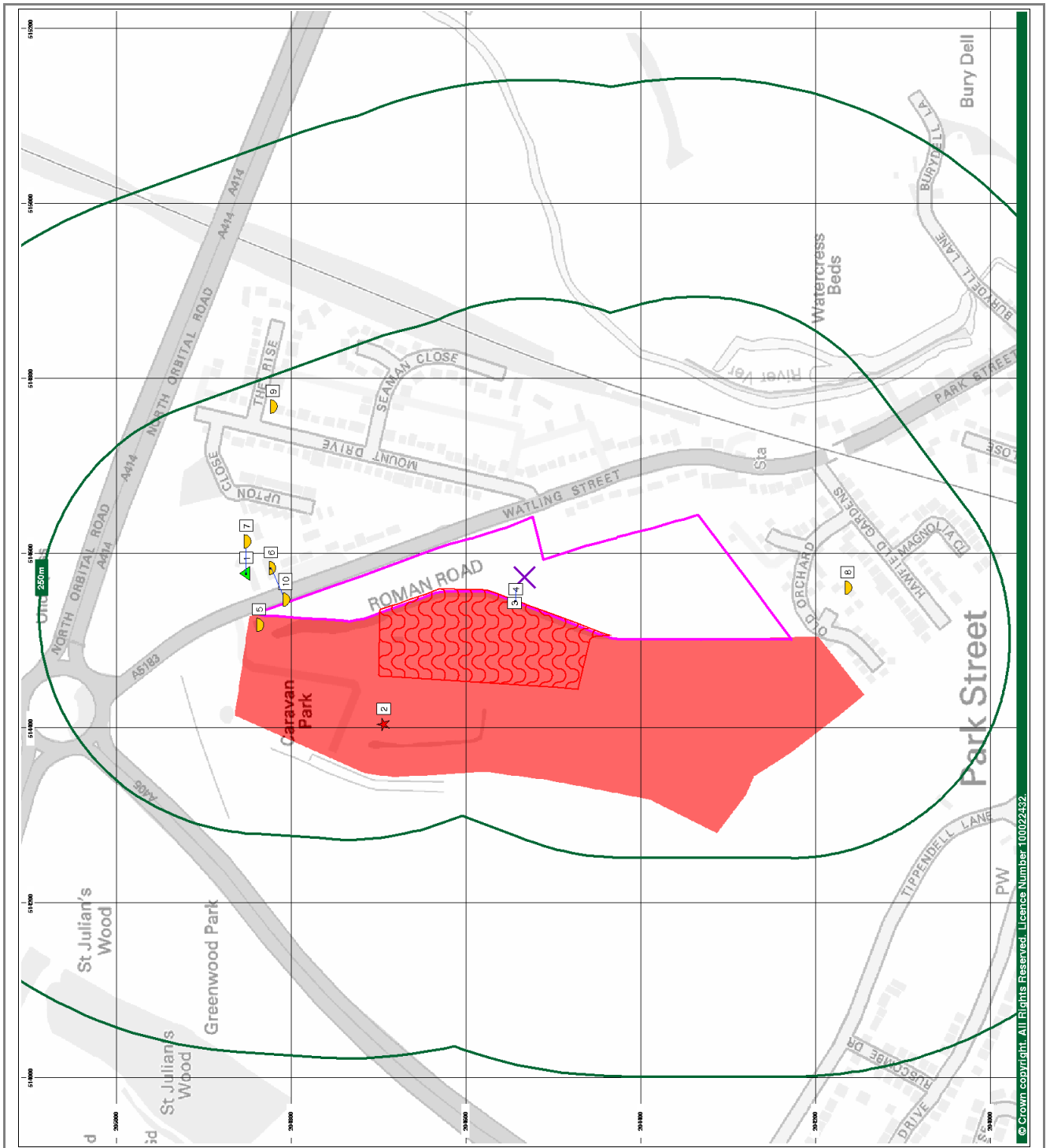
Landfill Site Information

Registered landfill site boundaries (where available), are shown on the map as a red diagonal hatched polygon and referred to in the map legend as Registered Landfill Sites. At present no complete national dataset exists for landfill site boundaries, therefore a point grid reference provided by the data supplier is used for some landfill sites. The point grid references supplied provide only an approximate position, and can vary from the site entrance to the centre of the site. A point cannot properly define landfill boundaries therefore Landmark constructs a 250 metre or 100 metre "buffer" zone around the point to warn of the possible presence of landfill. The "buffer" zone is shown on the map as an orange crosshatched area and is referred to in the map legend as Potential Landfill Buffer.

Local Authority landfill data is sourced from individual local authorities that were able to provide information on sites operating prior to the introduction of the Control of Pollution Act (COPA) in 1974. Appropriate authorities are listed under Local Authority Landfill Coverage with an indication of whether or not they were able to make landfill data available. Details of any records identified are disclosed. You should be aware that if the local authority had landfill data but passed it to the relevant Environment Agency office, it does not necessarily mean that local authority landfill data is now included in our other Landfill datasets. In addition if no data has been made available for all or part of the search area, you should be aware that a negative response under 'Local Authority Recorded Landfill Sites' does not necessarily confirm that no local authority landfills exist.

Subsidence Hazards

Information on subsidence hazards is provided by the British Geological Survey (BGS). Information present within 250m of the site is reported under Natural and Mining Related Hazards. Due to the level of detail of this data and the complexities of the real world, the BGS recommends a precautionary approach when using this information and advises taking the worst reading noted for each dataset within the vicinity of a property. Therefore, Landmark reports the presence of a ground stability or non-coal related mining hazard in the Risk Analysis section based on the highest reading found within 50m of the site boundary.



Current Land Use within 250m

- General**
 - Site Boundary
 - Bearing Reference Point
 - Reference Number
- Waste/Landfill Sites**
 - BCS Recorded Landfill Site
 - EA Historic Landfill (Foggon)
 - EA Historic Landfill (Buller Point)
 - Licensed Waste Management Facilities (Landfill)
 - Local Authority Recorded Landfill Site
 - Point Location of Waste Transfer Site
 - Point Location of Registered Waste Treatment or Disposal Site
 - Registered Landfill Site
- Statutory Authorisations**
 - Local Authority Pollution Prevention and Control
 - Point Location of Contaminated Land Register Entry of Notice
 - Discharge Consent
 - Discharges Consent
 - Water Industry Act Referral
 - Integrated Pollution Control
 - Integrated Pollution Prevention and Control
- Storage of Hazardous Substances**
 - Explosive Site
 - NIHSS
- Contraventions**
 - Local Authority Pollution Prevention and Control Enforcement
 - Planning Hazardous Substance Enforcement
 - Prosecution Relating to Authorised Processes
- Potentially Contaminative Use**
 - Potentially Contaminative Use
 - Fuel Station Entry
- Miscellaneous**
 - BCS Recorded Mineral Site
 - Telecommunication Base Station

Statutory Information

Local Authority Pollution Prevention and Controls

Map ID	Details	Distance	Direction
1	Name: Mount Service Station, Location: 113 Watling Street, ST ALBANS, Hertfordshire, AL2 2NN, Authority: St Albans City & District Council, Environmental Health Department, Permit Ref: VRP/19/2005, Dated: Not Supplied, Process Type: Local Authority Pollution Prevention and Control, Description: PG1/14 Petrol filling station, Status: Permitted, Positional Accuracy: Automatically positioned to the address.	48m	N

Waste

Waste/Landfill Sites

Local Authority Landfill Coverage

St Albans District Council - Has supplied landfill data

Hertfordshire County Council - Has supplied landfill data

BGS Recorded Landfill Sites

Map ID	Details	Distance	Direction
2	Name: Sewage Disposal Works, Location: Watling Street, ST ALBANS, Hertfordshire, Authority: British Geological Survey, National Geoscience Information Service, Ground Water: Information not available, Surface Water: Information not available, Geology: Overlying Chalk Beds, Positional Accuracy: Unknown, Boundary Accuracy: Not Applicable.	123m	NW

Local Authority Recorded Landfill Sites

Map ID	Details	Distance	Direction
4	Location: Park Street Sewage Works, St Albans, Reference: Not Supplied, Authority: St Albans City & District Council, Environmental Health Department, Last Reported Status: Unknown, Types of Waste: Not Supplied, Date of Closure: Not Supplied, Boundary Quality: Moderate, Positional Accuracy: Positioned by the supplier.	On Site	W

Historical Landfill Sites

Map ID	Details	Distance	Direction
3	Licence Holder: St Albans County Council, Location: Watling Street, St Albans, Hertfordshire, Name: Park Street Sewage Works, Operator Location: Not Supplied, Boundary Accuracy: As Supplied, Provider Reference: EAHLD13031, First Input Date: Not Supplied, Last Input Date: Not Supplied, Specified Waste Type: Not Supplied, EA Waste Ref: 0, Regis Ref: Not Supplied, WRC Ref: 1900/0064, BGS Ref: Not Supplied, Other Ref: 3241, Ex/0015, EXEMPT 3241	On Site	W

Current Land Use

Current Potentially Contaminative Uses

Contemporary Trade Directory Entries

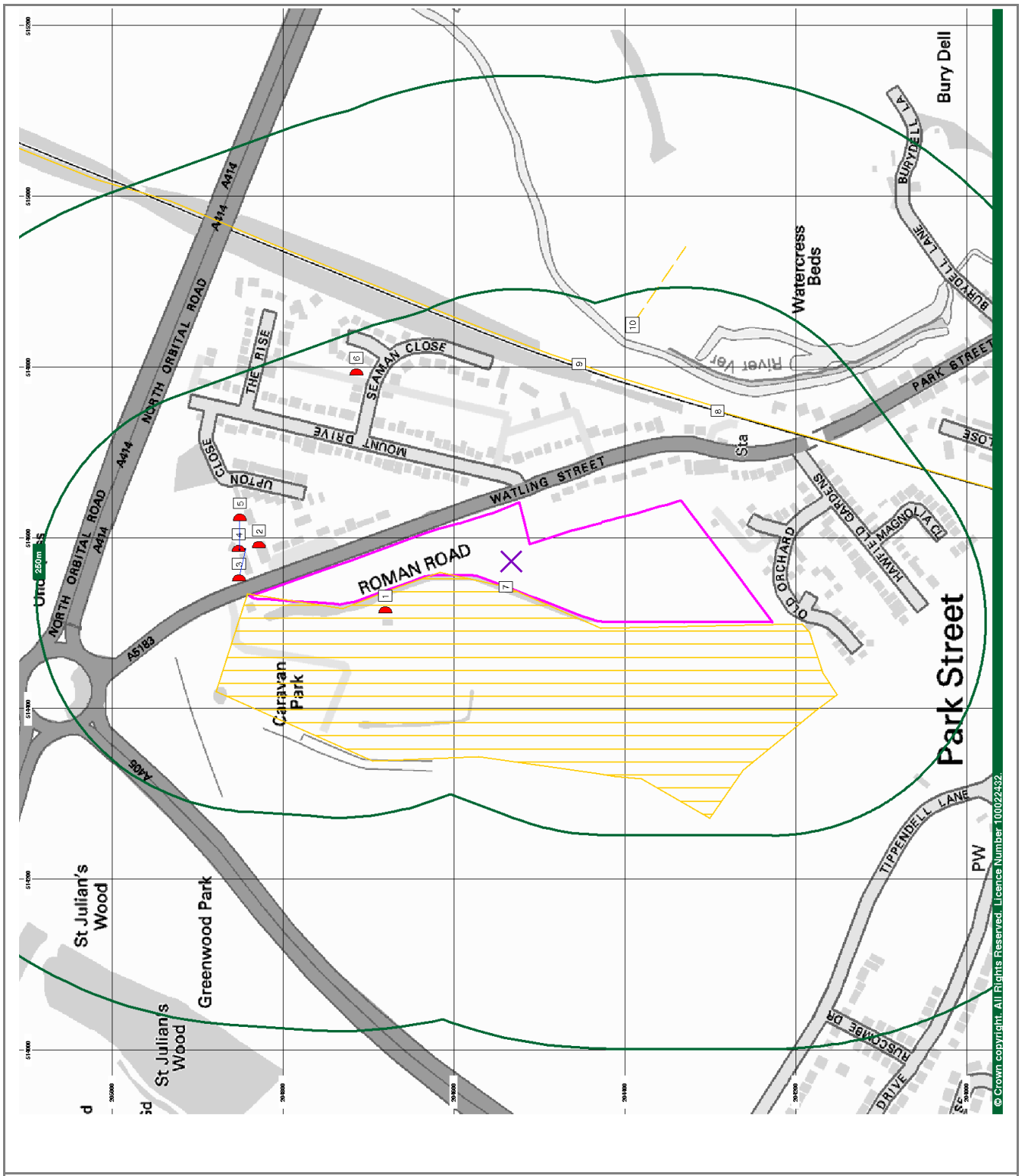
Map ID	Details	Distance	Direction
5	Car Dealers - Used, Name: Coach House Performance Cars, Status: Inactive, Location: 124, Watling Street, Park Street, St. Albans, Hertfordshire, AL2 2NW, Positional Accuracy: Automatically positioned to the address.	12m	N
6	Petrol Filling Stations, Name: B P, Status: Active, Location: 113, Watling Street, Park Street, St. Albans, Hertfordshire, AL2 2NN, Positional Accuracy: Automatically positioned to the address.	44m	N
7	Petrol Filling Stations - 24 Hour, Name: Mount Service Station, Status: Inactive, Location: 113, Watling Street, Park Street, St. Albans, Hertfordshire, AL2 2NN, Positional Accuracy: Automatically positioned to the address.	48m	N

Contemporary Trade Directory Entries

Map ID	Details	Distance	Direction
8	Pest & Vermin Control, Name: Kwikpest, Status: Inactive, Location: 12, Old Orchard, Park Street, St. Albans, Hertfordshire, AL2 2QB, Positional Accuracy: Automatically positioned to the address.	87m	S
9	Garage Services, Name: K & J Mobiles, Status: Inactive, Location: 54, Mount Drive, Park Street, St. Albans, Hertfordshire, AL2 2NU, Positional Accuracy: Automatically positioned to the address.	217m	NE

Fuel Station Entries

Map ID	Details	Distance	Direction
10	Name: Mount Sf Connect, Location: 113 Watling Street, St Albans, Hertfordshire, AL2 2NN, Brand: BP, Premises Type: Petrol Station, Status: Open, Positional Accuracy: Manually positioned to the address or location.	44m	N



Historical Land Uses within 250m

- General**
 - Site Boundary
 - Search Buffer
 - Bearing Reference Point
 - Grid Lines
 - Reference Number
- Potentially Contaminative Uses**
 - Point Feature
 - Area Feature
 - Line Feature
- Potentially Infilled Land**
 - Point Feature
 - Area Feature
 - Line Feature
- Former Marshes**
 - Point Feature
 - Area Feature
 - Line Feature
- Historical Tanks and Energy Facilities**
 - Point Feature

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Historical Land Use

Historical Potentially Contaminative Uses

Historical Tanks and Energy Facilities

Map ID	Details	Distance	Direction
1	Electricity Industry Facilities, Scale of Mapping: 1:1,250, Date of Mapping: 1970.	23m	N
2	Electrical Sub Station Facilities, Scale of Mapping: 1:1,250, Date of Mapping: 1970.	53m	N
3	Tanks, Scale of Mapping: 1:1,250, Date of Mapping: 1970.	55m	N
4	Potential Tanks, Scale of Mapping: 1:2,500, Date of Mapping: 1968.	57m	N
5	Potential Tanks, Scale of Mapping: 1:1,250, Date of Mapping: 1963 - 1970.	57m	N
6	Electrical Sub Station Facilities, Scale of Mapping: 1:1,250, Date of Mapping: 1970.	204m	NE

Potentially Contaminative Industrial Uses (Past Land Use)

Map ID	Details	Distance	Direction
7	Sewage, Date of Mapping: 1899-1960.	On Site	W
8	Railways, Date of Mapping: 1883-1990.	114m	SE
9	Railways, Date of Mapping: 1883-1985.	118m	E

Potentially Infilled Land

Potentially Infilled Land (Water)

Map ID	Details	Distance	Direction
10	Unknown Filled Ground (Pond, marsh, river, stream, dock etc), Date of Mapping: 1951.	214m	SE

Historical Maps

The following maps have been manually reviewed by a consultant and presented in the Risk Analysis section at the front of this report:

Scale	Map Sheet	Published Date
1:2,500	Hertfordshire 039_03	1872
1:2,500	Hertfordshire 034_15	1880
1:2,500	Hertfordshire 034_15	1898
1:2,500	Hertfordshire 039_03	1898
1:2,500	Hertfordshire 034_15	1924
1:2,500	Hertfordshire 039_03	1924
1:2,500	Hertfordshire 034_15	1937
1:2,500	Hertfordshire 039_03	1938
1:2,500	National Grid TL1405	1964
1:2,500	National Grid TL1403	1968
1:2,500	National Grid TL1404	1968
1:10,560	Hertfordshire 034_00	1883
1:10,560	Hertfordshire 039_00	1883
1:10,560	Hertfordshire 034_SE	1899
1:10,560	Hertfordshire 039_NE	1900
1:10,560	Hertfordshire 034_SE	1925
1:10,560	Hertfordshire 039_NE	1925
1:10,560	Hertfordshire 039_NE	1938
1:10,560	Hertfordshire 034_SE	1951
1:10,560	National Grid TL10NE	1960
1:10,560	National Grid TL10NW	1960
1:10,560	National Grid TL10SE	1960
1:10,560	National Grid TL10SW	1960
1:10,560	National Grid TL10NW	1965
1:10,560	National Grid TL10SW	1965

Scale	Map Sheet	Published Date
1:10,000	National Grid TL10SE	1972
1:10,000	National Grid TL10SW	1975
1:10,000	National Grid TL10NE	1978
1:10,000	National Grid TL10NW	1978
1:10,000	National Grid TL10NE	1985
1:10,000	National Grid TL10SE	1990
1:10,000	National Grid TL10SW	1990
1:10,000	National Grid TL10NW	1992
1:10,000	National Grid TL10NE	2014
1:10,000	National Grid TL10NW	2014
1:10,000	National Grid TL10SE	2014
1:10,000	National Grid TL10SW	2014
1:1,250	National Grid TL1403NE	1962
1:1,250	National Grid TL1403NW	1962
1:1,250	National Grid TL1404NE	1963
1:1,250	National Grid TL1404NW	1963
1:1,250	National Grid TL1404SE	1963
1:1,250	National Grid TL1404SW	1963
1:1,250	National Grid TL1405SE	1963
1:1,250	National Grid TL1405SW	1963
1:1,250	National Grid TL1404NE	1970
1:1,250	National Grid TL1403NW	1972
1:1,250	National Grid TL1405SE	1974
1:1,250	National Grid TL1405SW	1974
1:1,250	National Grid TL1404NE	1974
1:1,250	National Grid TL1405SE	1975
1:1,250	National Grid TL1403NE	1992
1:1,250	National Grid TL1404NE	1992
1:1,250	National Grid TL1404NW	1992
1:1,250	National Grid TL1404SE	1992
1:1,250	National Grid TL1404SW	1992
1:1,250	National Grid TL1405SW	1992
1:1,250	National Grid TL1403NE	1994
1:1,250	National Grid TL1403NE	1979
1:1,250	National Grid TL1404NW	1979
1:1,250	National Grid TL1405SE	1985
1:1,250	National Grid TL1403NW	1991

Groundwater Vulnerability

Hydrogeology

Superficial Aquifer Designations

Map ID	Details	Distance	Direction
	Secondary Aquifer - A These aquifers are formed of moderately permeable layers capable of supporting water supplies at a local scale, and in some cases forming an important source of base flow to rivers.	On Site	-
	Secondary Aquifer - A These aquifers are formed of moderately permeable layers capable of supporting water supplies at a local scale, and in some cases forming an important source of base flow to rivers.	162m	N

Bedrock Aquifer Designations

Map ID	Details	Distance	Direction
	Principal Aquifer These aquifers are typically formed of layers of rock or drift deposits that have a high permeability and provide a high level of water storage. They may support water supply and/or base river flow on a strategic scale.	On Site	-
	Principal Aquifer These aquifers are typically formed of layers of rock or drift deposits that have a high permeability and provide a high level of water storage. They may support water supply and/or base river flow on a strategic scale.	162m	N

Groundwater Vulnerability

Map ID	Details	Distance	Direction
	Soil Classification: Soils of Intermediate Leaching Potential (I1) - Soils which can possibly transmit a wide range of pollutants, Map Scale: 1:100,000, Map Name: Sheet 39 West London.	On Site	-

Geology

BGS 1:50,000 Bedrock Geology

Map ID	Details	Distance	Direction
	LEX Code: LESE, Rock Name: Lewes Nodular Chalk Formation and Seaford Chalk Formation (Undifferentiated), Rock Type: Chalk, Min Age: Santonian, Max Age: Turonian.	On Site	-

BGS 1:50,000 Superficial Deposits

Map ID	Details	Distance	Direction
	LEX Code: RTDU, Rock Name: River Terrace Deposits (Undifferentiated), Rock Type: Sand and Gravel, Min Age: Quaternary, Max Age: Quaternary.	On Site	E
	LEX Code: RTDU, Rock Name: River Terrace Deposits (Undifferentiated), Rock Type: Sand and Gravel, Min Age: Quaternary, Max Age: Quaternary.	On Site	-
	LEX Code: ALV, Rock Name: Alluvium, Rock Type: Clay, Silt, Sand and Gravel, Min Age: Flandrian, Max Age: Flandrian.	120m	SE
	LEX Code: KGCA, Rock Name: Kesgrave Catchment Subgroup, Rock Type: Sand and Gravel, Min Age: Pleistocene, Max Age: Pleistocene.	249m	W
	LEX Code: KGCA, Rock Name: Kesgrave Catchment Subgroup, Rock Type: Sand and Gravel, Min Age: Pleistocene, Max Age: Pleistocene.	351m	NW
	LEX Code: KGCA, Rock Name: Kesgrave Catchment Subgroup, Rock Type: Sand and Gravel, Min Age: Pleistocene, Max Age: Pleistocene.	489m	SE

BGS 1:50,000 Geological Mapping Coverage

Map ID	Details	Distance	Direction
	Map Sheet No: 239, Map Name: Hertford, Map Date: 1978, Bedrock Geology: Available, Superficial Geology: Available, Artificial Geology: Not Available, Faults: Not Supplied, Landslip: Not Available, Rock Segments: Not Supplied.	On Site	-

Detailed River Network Lines

Map ID	Details	Distance	Direction
	Primary River, River Name: River Ver Hydrographic Area: B06, River Flow Type: Primary Flow Path, River Surface Level: Surface, Drain Feature: Not a Drain, Flood Risk Management Status: Flood Risk Management Indicative/Statutory Main River, Water Course Name: Ver, Water Course Reference: 28VE.	145m	SE
	Secondary River, River Name: Not Supplied Hydrographic Area: B06, River Flow Type: Primary Flow Path, River Surface Level: Surface, Drain Feature: Not a Drain, Flood Risk Management Status: Other Rivers, Water Course Name: Not Supplied, Water Course Reference: Not Supplied.	156m	SE
	Secondary River, River Name: Not Supplied Hydrographic Area: B06, River Flow Type: Primary Flow Path, River Surface Level: Surface, Drain Feature: Not a Drain, Flood Risk Management Status: Other Rivers, Water Course Name: Not Supplied, Water Course Reference: Not Supplied.	167m	SE
	Secondary River, River Name: Not Supplied Hydrographic Area: B06, River Flow Type: Primary Flow Path, River Surface Level: Surface, Drain Feature: Not a Drain, Flood Risk Management Status: Other Rivers, Water Course Name: Not Supplied, Water Course Reference: Not Supplied.	205m	SE

Detailed River Network Offline Drainage

Map ID	Details	Distance	Direction
	River Type: Tertiary River	113m	N
	River Type: Tertiary River	151m	W
	River Type: Tertiary River	155m	W

BGS 1:625,000 Solid Geology

Map ID	Details	Distance	Direction
	White Chalk Subgroup.	On Site	-

Environmentally Sensitive Features



Sensitive Land Uses

- | | | |
|------------------------------------|-------------------------|-------------------------------------|
| Site Boundary | Local Nature Reserve | Ramsar Site |
| Search Buffer | Marine Nature Reserve | Nearest Surface Water Feature |
| Bearing Reference Point | National Nature Reserve | Site of Special Scientific Interest |
| N | National Park | Special Area of Conservation |
| Area of Outstanding Natural Beauty | National Scenic Area | Special Protection Area |
| Environmentally Sensitive Area | Nitrate Sensitive Area | Water Abstraction |
| Forest Park | Nitrate Vulnerable Zone | Historical Flood Liability |

Environmentally Sensitive Features

Nitrate Vulnerable Zones

Map ID	Details	Distance	Direction
1	Name: , Description: Surface Water, Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA).	On Site	-

Nearest Surface Water Feature

Map ID	Details	Distance	Direction
2	Surface water feature identified in proximity.	113m	N

Water Abstractions

Map ID	Details	Distance	Direction
3	Operator: Mr R Parker, Licence Number: 28/39/28/0186, Permit Version: 100, Location: Artesian Boreholes At Burydell Lane, Park Street - B, Authority: Environment Agency, Thames Region, Abstraction: Aquaculture: Fish Farm/Cress Pond Throughflow, Abstraction Type: Water may be abstracted from a single point, Source: Groundwater, Daily Rate(m ³): Not Supplied, Yearly Rate (m ³): 454600, Burydell Lane, Park Street, St Albans, Authorised Start: 01 January, Authorised End: 31 December, Permit Start Date: 27th June 1996, Permit End Date: Not Supplied, Positional Accuracy: Located by supplier to within 10m.	207m	SE
4	Operator: Mr R Parker, Licence Number: 28/39/28/0186, Permit Version: 101, Location: Artesian Boreholes At Burydell Lane, Park Street - B, Authority: Environment Agency, Thames Region, Abstraction: Aquaculture: Fish Farm/Cress Pond Throughflow, Abstraction Type: Water may be abstracted from a single point, Source: Groundwater, Daily Rate(m ³): Not Supplied, Yearly Rate (m ³): Not Supplied, Burydell Lane, Park Street, St Albans, Authorised Start: 01 April, Authorised End: 31 March, Permit Start Date: 7th April 2008, Permit End Date: Not Supplied, Positional Accuracy: Located by supplier to within 100m.	207m	SE
5	Operator: Mr R Parker, Licence Number: 28/39/28/0186, Permit Version: 100, Location: Artesian Boreholes At Burydell Lane, Park Street - A, Authority: Environment Agency, Thames Region, Abstraction: Aquaculture: Fish Farm/Cress Pond Throughflow, Abstraction Type: Water may be abstracted from a single point, Source: Groundwater, Daily Rate(m ³): Not Supplied, Yearly Rate (m ³): 454600, Burydell Lane, Park Street, St Albans, Authorised Start: 01 January, Authorised End: 31 December, Permit Start Date: 27th June 1996, Permit End Date: Not Supplied, Positional Accuracy: Located by supplier to within 100m.	282m	SE
6	Operator: Mr R Parker, Licence Number: 28/39/28/0186, Permit Version: 101, Location: Artesian Boreholes At Burydell Lane, Park Street - A, Authority: Environment Agency, Thames Region, Abstraction: Aquaculture: Fish Farm/Cress Pond Throughflow, Abstraction Type: Water may be abstracted from a single point, Source: Groundwater, Daily Rate(m ³): Not Supplied, Yearly Rate (m ³): Not Supplied, Burydell Lane, Park Street, St Albans, Authorised Start: 01 April, Authorised End: 31 March, Permit Start Date: 7th April 2008, Permit End Date: Not Supplied, Positional Accuracy: Located by supplier to within 100m.	282m	SE

Source Protection Zones

Map ID	Details	Distance	Direction
	Name: Various, Source: Environment Agency, Head Office, Reference: Not Supplied, Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	On Site	-
	Name: Various, Source: Environment Agency, Head Office, Reference: Not Supplied, Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	On Site	-

Natural and Mining Related Hazards

Subsidence

Collapsible Ground Stability Hazards

Map ID	Details	Distance	Direction
	Risk: Very Low, Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Compressible Ground Stability Hazards

Map ID	Details	Distance	Direction
	Risk: No Hazard, Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Ground Dissolution Stability Hazards

Map ID	Details	Distance	Direction
	Risk: Very Low, Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Landslide Ground Stability Hazards

Map ID	Details	Distance	Direction
	Risk: Very Low, Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Running Sand Ground Stability Hazards

Map ID	Details	Distance	Direction
	Risk: Very Low, Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Shrinking or Swelling Clay Subsidence Hazards

Map ID	Details	Distance	Direction
	Risk: No Hazard, Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Non-Coal Mining Hazards

Map ID	Details	Distance	Direction
	Risk: Rare, Source: British Geological Survey, National Geoscience Information Service.	On Site	-
	Risk: Rare, Source: British Geological Survey, National Geoscience Information Service.	162m	N

Radon

Radon Potential

Map ID	Details	Distance	Direction
	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level), Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Radon Protective Measures

Map ID	Details	Distance	Direction
	None, Source: British Geological Survey, National Geoscience Information Service.	On Site	-

Mining

Natural and Mining Cavities

Map ID	Details	Distance	Direction
	Cavity Type: Solution Pipe x 3, Origin: , Cavity Number: , Commodity: , Positional Accuracy: .	308m	SE

Current Flood Risk

Flooding from River or Sea (Flood Zone 3)

Details	Distance	Reply or Direction
Are there any flood plains within 500m?	<501m	YES
Type: Fluvial Models, Source: Environment Agency, Head Office, Boundary Accuracy: As Supplied.	138.9m	E

Flooding from River or Sea in an Extreme Flood (Flood Zone 2)

Details	Distance	Reply or Direction
Are there any flood plains (extreme floods) within 500m?	<501m	YES
Type: Fluvial Models, Source: Environment Agency, Head Office, Boundary Accuracy: As Supplied.	138.9m	E

The site is at a low risk of flooding from rivers or the sea, as defined by the regulatory body's Flood Map. If the site area is greater than one hectare, any planning application for development would need to be accompanied by a Flood Risk Assessment in accordance with NPPF.

Flood Defences

Details	Distance	Reply or Direction
Are there any flood defences within 500m?	<501m	YES

There are flood defences within 250m of the site. There may therefore be a residual risk of flooding should the protection standard of those defences be exceeded (and the defences overtopped) or should the defences fail. Further investigations could be undertaken into the standard of these defences. Please contact us for further information.

Areas Benefiting from Flood Defences

Details	Distance	Reply or Direction
Does the site or any areas within 500m benefit from flood defences?	<501m	NO

The site is over 500m from an Area Benefiting from a Flood Defence, as defined by the regulatory body. The residual risk that the site may flood if the protection standard of any flood defences is exceeded, or if the defences fail, is insignificant.

Flood Storage Areas

Details	Distance	Reply or Direction
Are there any flood storage areas within 500m?	<501m	NO

The site is over 500m from a Flood Storage Area as defined by the regulatory body. These areas store flood water during flood events. It is unlikely that any FSA presents any associated flood risk to the site.

Details	Distance	Reply or Direction
What is the flood likelihood category for the site?	On site	-

Some areas may be classified as having no result. This occurs where there is no output data from the regulatory body's risk assessment, but the area falls within the extreme flood outline (with a 0.1% or 1 in 1000 chance of flooding in any year).

Environment Agency Data

The data in the Risk of Flooding from Rivers and Sea Property Flood Likelihood Database is sourced from The Environment Agency's National Receptor Dataset (NRD). The information provided includes the flood likelihood category low, moderate, or significant according to the flood likelihood analysis. Some areas may be classified as having no result. This occurs where there is no output data from the analysis, but the area falls within the extreme flood outline (with a 0.1% or 1 in 1000 chance of flooding in any year).

Groundwater Flooding Risk

Details	Distance	Reply or Direction
What is the risk of groundwater flooding at the site?	On site	high

Information from GeoSmart Information Ltd indicates that there is a high risk of groundwater flooding in this area with a return period of 1 in 100 years or more frequent.

It is likely that incidence of groundwater flooding will occur, which could lead to damage to property or harm to other sensitive receptors at, or near, this location. Flooding may result in damage to property, road or rail closures and, in exceptional cases, may pose a risk to life. Surface water flooding will be exacerbated when groundwater levels are high. Further consideration of the level of risk and mitigation, by a suitably qualified professional, is recommended.

GeoSmart Information Ltd Data

GeoSmart Information Ltd provides data to Argyll in relation to groundwater flooding. Through research and development, building on their expertise in addressing groundwater flooding issues for the Environment Agency and other clients in the UK, GeoSmart Information Ltd has developed algorithms and calibrated predictions of the risk of groundwater flooding occurring in England and Wales. This differs from other suppliers of data regarding groundwater flooding which only report on the susceptibility of groundwater flooding. Susceptibility merely has to be identified, whereas risk must be quantified. The resulting map is a 50x50m classification of groundwater flooding risk into four categories (Negligible, Low, Moderate and High). GeoSmart Information Ltd's classifications are based on the level of risk, combining severity and uncertainty that a site will suffer groundwater flooding within a return period of about 100 years.

The map is a general purpose indicative screening tool, and is intended to provide a useful initial view for a wide variety of applications. However, it does not provide an alternative to a site specific assessment, and a detailed risk assessment should be used for any site where the impact of groundwater flooding would have significant adverse consequences.

Surface Water Flooding

Details	Distance	Reply or Direction
What is the risk of surface water flooding at the site following a 1 in 75 year rainfall event?	On site	medium
What is the risk of surface water flooding at the site following a 1 in 200 year rainfall event?	On site	medium
What is the risk of surface water flooding at the site following a 1 in 1,000 year rainfall event?	On site	medium

JBA Risk Management Data

Surface Water Flooding - Information regarding the risk of natural surface water or pluvial flooding. The risk is classified by JBA into four categories, low (equal to 10cm), low to medium (more than 10cm), medium (more than 30cm) and high (more than 1m) which reflect varying depths of potential surface water flooding during a range of rainfall events including 1:75 year, 1:200 year, and 1:1000 year.

Historical Flooding

Historical Flood Events

Details	Distance	Reply or Direction
Have any historic flood events occurred at the site or within 500m?	<501m	NO

The regulatory body's records have no indication of past flooding within 500m of the site. As these records are not comprehensive, it may still be prudent to ask the relevant authorities and the site owner whether they are aware of any previous flooding at the site or in the surrounding area.

Environment Agency Data

Historical Flood Outlines - The EA has collated extensive records (including outlines) of flooding from rivers, the sea or groundwater which have occurred in England and Wales since c. 1950. This information comes from various sources including maps, aerial photographs and private records. It is not necessarily comprehensive.

Geological Indicators of Flooding

Details	Distance	Reply or Direction
Are there any geological deposits which indicate the site may have been flooded in the past?	<26m	YES
Fluvial flooding indicators, Lower flood potential from rivers: areas affected by secondary flooding in extreme cases as a result of a prolonged flood event.	1.6m	W

Data from the British Geological Survey indicates that the type of deposits in the locality of the site are of the type normally associated with floodplains. However, this data should only be considered as complementary to the regulatory body's Flood Map. This BGS data does not indicate the likelihood of flooding. Refer to the other assessments in this report for an overall assessment of flood risk.

British Geological Survey Data

Geological Indicators of Flooding – The BGS Geological Indicators of Flooding (GIF) data set is a digital map based on the BGS Digital Geological Map of Great Britain at the 1:50,000 scale (DiGMapGB-50). It was produced by characterising Superficial (Drift) Deposits on DiGMapGB-50 in terms of their likely vulnerability to flooding, either from coastal or inland water flow and reflects areas which may have flooded in the recent geological past. This normally relates to flooding which happened many thousands of years ago.

Useful Contacts

Name and Address	Telephone/Fax/Email
Landmark Information Group Limited Imperium Imperial Way Reading RG2 0TD www.landmark.co.uk	Telephone 0844 844 9966 Fax 0844 844 9980 info@landmark.co.uk
St Albans City & District Council Environmental Health Department Civic Centre www.stalbans.gov.uk	Telephone 01727 866100 Fax: 01727 845658
Environment Agency National Customer Contact Centre (NCCC) PO Box 544	Telephone 03708 506 506
Hertfordshire County Council Spatial Planning and Economy Unit County Hall www.hertsdirect.org	Telephone 01992 556266 Fax: 01992 556015 spatialplanning@hertfordshire.gov.uk
British Geological Survey Enquiry Service British Geological Survey www.bgs.ac.uk	Telephone 0115 936 3143 Fax: 0115 936 3276 enquiries@bgs.ac.uk
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Government Buildings	Telephone 0113 2613333 Fax: 0113 230 0879
Peter Brett Associates Caversham Bridge House www.pba.co.uk	Telephone 0118 950 0761 Fax: 0118 959 7498 reading@pba.co.uk
Environment Agency National Customer Contact Centre (NCCC) PO Box 544 Templeborough Rotherham S60 1BY www.environment-agency.gov.uk	General enquiries 08708 506 506 Floodline 0845 988 1188 enquiries@environment-agency.gov.uk
British Geological Survey Enquiry Service British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG www.bgs.ac.uk	General enquiries 0115 936 3143 Fax 0115 936 3276
(For advice on flood insurance) British Insurance Brokers' Association 8th Floor John Stow House 8 Bevis Marks London EC3A 7JB	Consumer helpline 0870 950 1790
JBA Risk Management - Head Office South Barn Broughton Hall Skipton North Yorkshire BD23 3AE	General enquiries 01756 799 919 Fax 01756 799 449 info@jbarisk.com
Please note that the Environment Agency / SEPA have a charging policy in place for enquiries. When contacting these agencies please mention that this data has been received from the Landmark database, alternatively Argyll Environmental Limited would be pleased to assist with consultation to the above bodies. Please contact us for a quotation.	

Contamination Land Risk Analysis Methodology

This report has been designed to assist in making informed decisions during property transactions. This section of the Report is a desktop assessment of direct liabilities (Liabilities) which could affect the owner /occupier of the site and arise under Part 2A of the Environmental Protection Act 1990 (Relevant Legislation). If a risk is identified, then a number of options for finding out more about the risk, managing it or transferring it are proposed.

The assessment of environmental liability under the Relevant Legislation is based upon the principle of determining the presence of a plausible contaminant-pathway-receptor relationship (a contaminant linkage). A 'contaminant' is a source of contamination, a 'pathway' is a medium through which the contamination can mobilise and 'a receptor' is a person or entity that could be detrimentally affected by the contamination. If all three are identified, then a 'plausible contaminant-pathway-receptor relationship' may be present. By definition, this is one which Argyll believes could result in significant harm, a significant possibility of significant harm or significant pollution or the possibility of significant pollution to Controlled Waters.

In our assessment we use the following test to decide if there is a potential liability affecting the site. For the purpose of this assessment a site where a potential Liability has been identified is defined as follows:




A site which, from the information assessed by Landmark, is considered to have the potential of being affected by contaminative substances present in or under the site (but excluding potential sources of contamination on or above the land) such that, on the basis of its current or proposed use, there is a reasonable likelihood of a UK regulatory authority, acting in accordance with Relevant Legislation, requiring that remedial measures are taken in order to remedy or mitigate the contaminative substances that are present in or under the land that forms all or part of the site.

The term Liabilities is defined within the scope of this assessment to mean, remedial works under Part 2A of the Environmental Protection Act 1990 which may result in direct liability for the site owner/occupier.

The assessment within this section of the Report has been produced and quality checked by a team of qualified environmental professionals. The assessment is based upon a manual review of the data contained within the Data Section of this Report and of 1:2500 and 1:1250 (where available) scale historical mapping.

Liability Assessment

In this section Landmark will report on any potential soil and groundwater liabilities which it considers are associated with the site. Our assessment of Liability is based upon the proposed and current use of the site (as supplied by the client) in line with current Government guidance. There will be one of the following three responses:

Assessment	Liability Statement & explanation	Defra Category*
PASSED 	<p>Within the scope of this assessment no Liabilities have been identified. No further action is required.</p> <p>This statement indicates that within the scope of this assessment, no issues have been identified that are likely to result in significant cost liabilities under Relevant Legislation.</p>	3 or 4
PASSED 	<p>Within the scope of this assessment no Liabilities have been identified. However, your attention is drawn to the prudent enquiries suggested below.</p> <p>This statement indicates that within the scope of this assessment, no issues have been identified that are likely to result in significant cost liabilities under Relevant Legislation. However, a client may wish to obtain further information about other issues disclosed in the Report, which could be material.</p>	3 or 4
FURTHER ACTION 	<p>Potential Liabilities have been identified under Part 2A of the Environmental Protection Act 1990 (or where appropriate, equivalent requirements under the planning regime) and/or the Water Resources Act 1991⁴. To quantify these you may decide to undertake a more detailed assessment through the recommendation(s) set out below.</p> <p>This statement indicates that within the scope of this assessment, an issue or a number of issues have been identified that are likely to result in significant cost liabilities under Relevant Legislation. In this event, recommendations are made, in order that additional information is collected so that the liabilities may be more accurately assessed.</p>	Potentially 1 or 2

* According to Defra's updated Statutory Guidance on Contaminated Land, Regulators have a four-stage test to decide when land is and is not contaminated. Category 1 and Category 2 sites would encompass land which is capable of being

⁴Water Environment (Controlled Activities)(Scotland) Regulations 2005 where appropriate.

determined as contaminated land, whereas Category 3 and Category 4 sites would encompass land which is not capable of being determined as contaminated land.

Limitations of the Report

This report has been designed to satisfy standard environmental due-diligence enquiries, as recommended by the Law Society's contaminated land warning card. It is a 'remote' investigation and reviews only information provided by the client and from the databases of publicly available information that have been chosen to enable a desk based environmental assessment of the site. The Report does not include a site investigation, nor does Argyll make specific information requests of the regulatory authorities for any relevant information they may hold. Therefore, Argyll cannot guarantee that all land uses or factors of concern will have been identified by the Report.

The information in the Data Section of the Report is derived from a number of statutory and non-statutory sources. While every effort is made to ensure accuracy, Landmark cannot guarantee the accuracy or completeness of such information or data. Landmark will not accept responsibility for inaccurate data provided by external data providers.

For further information about the risk assessment methodology and the datasets reviewed within our assessment, please contact one of the Landmark Customer Helpdesk team on 0844 844 9966.




Flood Risk Screening Methodology

This section of the report is a desktop flood risk screening report, designed to enable property professionals to assess the risk of flooding at commercial sites. It examines three areas; how flood risk affects the availability of insurance for a site; how flood risk affects the potential to redevelop a site; and the overall risk of flooding at a site (taking into account any flood defences present). The report considers current Government guidance including the National Planning Policy Framework (NPPF). The report has been produced and quality-checked by a qualified consultant using the data contained in this report.

Executive Summary and Consultants Comment

This section summarises in a statement whether any significant flood risks have been identified and whether insurance is likely to be available at Standard Terms.

There will be one of the following three responses:

Assessment	Risk Statement
PASSED 	The site is not considered to be at a significant risk of flooding. Insurance is likely to be available at standard terms.
PASSED 	The site is located within an area which is at risk of flooding. In most cases insurance should be available at standard terms. However, this will be dependent on site specific factors and we recommend contacting your insurance broker before proceeding with any transaction.
FURTHER ACTION 	The site is located within an area which is at risk of flooding and as a result insurance may not be available at standard terms. However, this will be dependent on site specific factors and we recommend contacting your insurance broker before proceeding with any transaction.

Insurance

Landmark provides an indication of whether the level of flood risk at the site is likely to affect your ability to obtain insurance or if premiums could be high.

This assessment is Landmark's opinion, based on:

- (a) the assumption that the site is used for commercial purposes (not residential)
- (b) consideration of the following datasets and information only:
 - Risk of Flooding from Rivers and the Sea supplied by the Environment Agency

- Surface water flooding data supplied by JBA Consulting

Our opinion does not take into account any historic episodes of flooding or previous insurance claims arising from flooding at the site.

Since April 2016 insurers of commercial property are all free to decide whether to offer insurance against flooding, at what price, and on what terms. They will have different attitudes to risk. This means there is no set of universal guidelines to whether insurance will be available against flood risk or not. This is why we may have recommended you consult your proposed insurer prior to exchange of contracts, to establish the terms on which flood insurance would be offered.

The Flood Re scheme, which came into operation from April 2016, does not cover commercial property or mixed use property. So it will not assist the buyer or tenant of such sites, who is seeking cheaper or less restricted flood insurance.

For some sites, it is possible to reduce the risk of flooding by installing flood protection measures (either flood resistance or flood resilience measures). If these measures are appropriate to the site, and have been installed properly, then an insurer may offer better terms (lower premium, lower excess or fewer conditions to cover).

Development Risk

The report comments on whether a full or partial Flood Risk Assessment (FRA) would be required in accordance with National Planning Policy Framework (NPPF). The answer to Question 2 (on page 3 or 4) is indicative only and is based on the size of the site (as supplied by the client) and the information in the data section of this report.

NPPF sets out Government policy on development and flood risk. Its aims are to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Where new development is exceptionally necessary, NPPF aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall.

A separate Drainage Impact Assessment may be required in addition to an FRA to demonstrate that development of the site will not adversely affect flood risk elsewhere.

Response	Meaning
Yes (Full)	If the site was redeveloped, a full Flood Risk Assessment is likely to be required which should include a Drainage Impact Assessment.
Yes (Drainage)	If the site was redeveloped, a full Flood Risk Assessment may not be required however, given the size of the site, a Drainage Impact Assessment may be necessary.
No	If the site was to be redeveloped, no further flood assessment is likely to be required.

Flood Risk Rating

The report provides an overall flood risk rating based on an assessment of the data provided within this report. It does so by asking two questions:

3. What is the overall risk of flooding, assuming flood defence fail or are absent or overtopped?

The answer to Question 3 (page 3 or 4) provides a worst case scenario assuming there are either no defences in the area, that any defences in the area could fail, primarily as a result of river or coastal flooding, or are overtopped by excessive flood volumes.

4. Are there existing flood defences which might benefit the site?

The answer to Question 4 (page 3 or 4) is based on the presence of any flood defences in the dataset provided by the Environment Agency within 500m of the site. It should be noted that a residual risk of flooding may be present if such defences failed. Flood defences do not generally protect the site against groundwater and surface water flooding.

If defences are present within 250m, a further question is asked:

5. What is the risk of flooding when these defences are operational?

This assesses the risk from flooding, assuming these defences work as intended and neither fail nor are overtopped.

Questions 3 and 5 are answered by one of six standard responses:

Response	Meaning
Negligible	The overall flood risk rating for the site is assessed to be 'Negligible'. Existing datasets do not indicate any risk at the site itself, or any feature within the locality of the site, which would be expected to pose a threat of flooding. It is not considered that any further investigations are necessary in regard to flood risk.

Low	The overall flood risk rating for the site is assessed to be 'Low'. Although large sites (over 1 ha) would require a Drainage Impact Assessment to accompany any planning application, it is not considered necessary to undertake any other further investigations into the flood risk to the site.
Low to Moderate	The overall flood risk rating for the site is assessed to be 'Low to Moderate'. The presence of such features as flood defences, flood storage areas and watercourses within the locality of the site suggests that there may be a risk of flooding to the site itself. Further investigations could be undertaken to further assess this risk.
Moderate	The overall flood risk rating for the site is assessed to be 'Moderate'. Information from existing datasets suggests that there are certain features which may present a risk to the site and its occupants. Further assessment would normally be suggested as a prudent measure to clarify the risk of flooding at the site.
Moderate to High	The overall flood risk rating for site is assessed to be 'Moderate to High'. Information from existing datasets suggests that there are certain features which may present a significant risk to the site and its occupants. Further assessment is usually recommended in order to clarify the risk of flooding at the site.
High	The overall flood risk rating for site is assessed to be 'High', with a consequent risk to life and property. This means that existing datasets reveal significant flood risk issues which need to be addressed. Further assessment is usually recommended in order to clarify the risk of flooding at the site.

Flood Analysis

The flood risk gauges provide a more detailed analysis of the risk from each of the four main types of flooding – river, coastal, groundwater and surface water. In addition, a fifth gauge provides an analysis of other factors (i.e. historic flood events, geological deposits which are indicative of past flooding, proximity to surface water features and elevation above sea level) that may affect the overall flood risk. For surface water flooding, only the risk rating generated from the 1:200 year rainfall event data is included in the overall risk assessment. The data on 1:75 year and 1:1,000 year rainfall events is provided for information only. For further information on each of these types of flooding, please contact the Landmark customer services Helpdesk on 0844 844 9966.

This analysis takes into account any existing flood defences that are intended to protect the site and assumes that these work as designed. The analysis also takes into account the other information contained in those data sections of the report which are relevant to that particular type of flooding. The assessment of the risk as shown in the flood gauge should therefore take priority over the information in the individual data sections of the report.

Limitations of the Report

The Sitecheck Combined report has been designed to satisfy basic flood-related environmental due-diligence enquiries for commercial properties. It is a desktop review of information provided by the client and from selected private and public databases. It does not include a site investigation, nor are specific information requests made of the regulatory authorities for any relevant information (other than local water and sewerage providers). Therefore, Argyll cannot guarantee that all issues of concern will be identified by this report, or that the data and information supplied to it by third parties is accurate and complete.

This report includes an assessment of surface water flooding which examines the risk of the general drainage network overflowing during periods of extreme rainfall. This report does not make a detailed site-specific assessment of the suitability of the existing drainage on the site. If this is required, then a site survey should be considered. The assessment of pluvial flooding does not take into account particular local or temporary factors that may cause surface water flooding such as the blockage or failure of structures on or within watercourses, drains, foul sewers, water mains, canals and other water infrastructure; and any history of drains flooding at the site or in the locality. Surface water flooding can occur before surface water reaches the general drainage network, for example on hills and inclines.

The Risk of Flooding from Rivers and Sea dataset provided by The Environment Agency does take account of failure of flood defences but does not take into account particular local or temporary factors such as blockage. The Environment Agency data does not include flood risk from very small catchments as models of such small scale catchments are not considered to be reliable for UK-wide flood risk assessments. The potential impact of climate change on flood risk to the site would require further study.

When answering any questions within this report, current applicable legislation is taken into account.

The data used in this report may have inherent limitations and qualifications. Further details are available by calling the Landmark Customer Helpdesk on 0844 844 9966.

Flood Glossary

Business Continuity Plan

A business continuity plan is a strategic plan of action for a business to implement in an emergency (i.e. flood event). This plan ensures a business can continue to operate during emergency situations and reduces the risk of suffering avoidable losses. For example, it may cover such items as emergency accommodation and computer back up off site.

Flood Evacuation Plan

A flood evacuation plan sets out clear steps to ensure the safe evacuation of staff during a flood. It will form part of the Business Continuity Plan.

Coastal Flooding

Coastal flooding is the inundation of land areas along the coast caused by sea water rising above normal tidal conditions. Coastal flooding can arise from a combination of high tides, wind induced tidal surge, storm surge created by low pressure and wave action.

Flood Resistance Measures

These measures are designed to prevent flood water from entering the buildings on site.

Flood Resilience Measures

These measures are intended to make buildings more resilient to flood damage so that they recover more quickly from flooding. They are not designed to prevent flood water entering the property.

Flood Risk Assessment

A full Flood Risk Assessment (FRA) Report is a bespoke report required under NPPF for any development site within Environment Agency Flood Zones 2 or 3 and/or any development site larger than 1 hectare. These reports are generally prepared following liaison with the Local Planning Authority and the application of the sequential test.

Flood Zone 1

The area where flooding from rivers or sea is very unlikely as defined by the Environment Agency. There is less than 0.1% (1 in 1,000) chance of flooding occurring each year.

Flood Zone 2

The area of medium probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of between 1% (1 in 100) to 0.1% (1 in 1,000) for river flooding and 0.5% (1 in 200) to 1% (1 in 1,000) for coastal flooding.

Flood Zone 3a

The area of high probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of 1% (1 in 100) or greater for river flooding and 0.5% (1 in 200) or greater for coastal flooding.

Flood Zone 3b

The boundary between 3a and 3b is a planning decision made by the Local Authority. This information is usually in the strategic flood risk assessment. This area is a functional floodplain as defined by the Environment Agency. It is an area which is designed to flood – a flood return period of 1 in 20 or less.

Groundwater Flooding

Groundwater flooding occurs when ground water levels increase sufficiently for the water table to intersect the ground surface. Groundwater flooding can occur in a variety of geological settings including valleys and in areas underlain by chalk, and in river valleys with thick deposits of alluvium and river gravels.

NPPF

This relates to the National Planning Policy Framework and the associated Technical Guidance.

Pluvial (Surface Water) Flooding

Pluvial flooding results from rainfall running over ground before entering a watercourse or sewer. It is usually associated with high intensity rainfall events (typically greater than 30mm per hour) but can also occur with lower intensity rainfall or melting snow where the ground is already saturated, frozen, developed (for example in an urban setting) or otherwise has low permeability.

Return Period

Return periods are a measure of how likely flooding is to occur. They are commonly expressed as a ratio (for example 1 in 75 or 1:75). This means that this level of flooding is expected once in every 75 years.

River Flooding

River flooding mainly happens when the river catchment (that is the area of land that feeds water into the river and the streams that flow into the main river) receives greater than usual amounts of water (for example through rainfall or melting of snow). The amount of runoff depends on the soil type, catchment steepness, drainage characteristics, agriculture and urbanisation as well as the saturation of the catchment. The extra water causes the level of the water in the river to rise above its banks or retaining structures.

Landmark Conveyancing Terms & Conditions

Full Terms and Conditions can be found on the following link:

<http://www.landmarkinfo.co.uk/Terms/Show/515>



Important Consumer Protection Information

This search has been produced by Landmark Information Group Ltd, Imperium, Imperial Way, Reading, RG2 0TD. Telephone 0844 844 9966, Fax No. 0844 844 9980 email helpdesk@landmark.co.uk which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Web site: www.tpos.co.uk
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE



Complaints procedure

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:

Head of Customer Relations
Landmark Information Group Ltd
Landmark UK Property
Imperium
Imperial Way
Reading
RG2 0TYD

Telephone: 0844 844 9966

Email: helpdesk@landmark.co.uk

Fax: 0844 844 9980

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

Utilities Report

This report is issued for the site described as:

Site off Watling Street, St Albans

Report Reference:

115451633_1

National Grid Reference:

514560,204480

Customer Reference:

LM / 52948

Report Date:

22/03/2017

CONTACT DETAILS






If you require any assistance please contact our customer services team on:

0844 844 9966




or by email at:

helpdesk@landmark.co.uk

Utility Type

	Electricity	AFFECTED
	Gas	AFFECTED
	Water and Sewerage	AFFECTED
	Telecoms	AFFECTED
	Other	AFFECTED

Report Information

	Works Description: Legal Conveyancing
	This is Batch A - Responses Enclosed
	Complete - Please see 'Understanding This Report'

Utilities Report



Understanding This Report

We have asked a comprehensive list of Utility companies whether they have any apparatus or underground services in the vicinity of the site.

Location Map

This shows the plan that was dispatched to the Utility companies. The companies have been asked to return information on the area outlined, which will encompass your chosen site.

Request Status Report

This will confirm the current status of the information requests. We list which responses we have received and whether the company is affected. The Status Report will be divided into the following sections.

Affected Utilities - We have received plans/information

No response received - We are still awaiting a full response

Not affected utilities - We have received a not affected/no plant present response

Responses

Affected responses are listed by company.

Any responses from companies confirming they are not affected are provided at the back of the report for your records.



'Awaiting Further Responses' or 'Pack Complete'?

We do not include Local Authority requests when indicating if the pack is 'Complete' or 'Awaiting Further Responses' as Local Authorities are not obliged to reply to these enquiries.

The local authority for the area is contacted to see if they have any council owned property that may be affected by works. In general, these plant enquiries go to the highways department for responses regarding street lighting and drainage. However, the responses we receive can vary each time depending on resources available at the council and we often don't receive replies from local authorities at all.

Response Times

We endeavour to obtain as much of the information as possible within the timescale of this report. Unfortunately, there are occasions when the response times of the utility companies mean we do not receive all information within the chosen timescale.

In these scenarios we will send all the information that is available as a first report. When we receive any remaining responses, the report will be re-issued in full incorporating the new information. This will continue until the report is complete. The front page of the report will confirm the batch (e.g. A, B or C) and whether responses are outstanding.

Terms and Conditions

Full Terms and Conditions can be found on the following link: <http://www.landmarkinfo.co.uk/Terms/Show/515>

Please note that Utility reports have a validity of 3 months from the date of purchase.

If you experience difficulties accessing our Terms and Conditions, please copy and paste the link directly into your browser, you will then be able to access our Terms and Conditions from there. Should you still experience difficulties, please telephone our Customer Service Team on 0844 844 9966.

Next Steps:

For any queries regarding the report content, or help with the report, contact your Landmark Customer Services team.

Utilities Report



Landmark Utilities Report Service PAS 128 Statement

Prepared for: **Landmark Information Group Ltd**

Practitioner: Atkins

Order Number: 52948

Site Name: Site off Watling Street, St Albans

Date of Order: 23/02/2017

Date of Issue: 22/03/2017

Thank you for using our Utility Report Service.

This report has been completed in accordance with the standards defined under Survey Category D of PAS128, a Publicly Available Specification for underground utility detection, verification and location published by the British Standards Institution.

Positional accuracy of plant is not guaranteed from information presented in a desktop search alone and the location of underground utilities should be verified through other means prior to breaking ground.

Information relating to the presence of Radio Frequency Identification Devices (RFIDs) has been requested from relevant utility companies or taken from mapping systems where available.

Utility companies who have not responded to enquiries are referenced on the enclosed Status Report accordingly. Their response will be chased and forwarded on for a period of up to four working weeks. Whilst we cannot guarantee that a utility company will respond to our enquiries, we endeavour to obtain responses from those that have not responded.

Any responses contained within this report have been obtained between the start date of the order and the date of issue.

If you want to discuss your report further with us please contact Landmark Customer Services.

Checked by **BRK**



Please ensure that the search data covers the **COMPLETE AREA** within the boundary lines on this map. (marked by: **—**)

Landmark will not be held responsible for any incident or accident arising from the use of the information associated with this particular Statutory Search. The details provided are given in good faith, but no liability whatsoever can be accepted in respect thereof.

REFERENCE: 52948

SITE: Site off Watling Street, St Albans

POST CODES:

AL2 2PA,AL2 2QB,AL2 2NW

SITE SIZE: 12.80 ha

MAP SCALE: 1:10000

COORDINATES:

1) 514563 204512; 2) 514698 204332; 3) 514542 204901; 4) 514449 204442; 5) 514500 204173;

Site off Watling Street, St Albans

OSGR: 514560,204480

Date Requested: 23-Feb-2017

AL2 2NZ

Client Reference:

115451633_1

Affected Utilities We have received plans/information from the following companies. Please see the enclosed response.

Utility	Category	Date Issued	Late Response Issue Date	Notes
Affinity Water - (Central Region)	Water,	22 Mar 17		
Environment Agency	Environmental Agency,	22 Mar 17		See response.
Hertfordshire County Council	Council,	22 Mar 17		Council street lighting website used.
LinesearchbeforeUdig	Pipeline,	22 Mar 17		BPA, National Grid Gas (Above 7 bar) and (Above 2 bar) and National Grid Electricity Transmission - identified as affected. See separate responses.
National Grid Gas	Gas,	22 Mar 17		
National Grid Gas (Above 7 bar) and (Above 2 bar) and National Grid Electricity Transmission	Gas, Electric,	22 Mar 17		
Openreach - [British Telecommunications]	Telecom,	22 Mar 17		
Thames Water	Water, Sewerage,	22 Mar 17		Sewer only.
UK Power Networks	Electric,	22 Mar 17		
Virgin Media	Telecom,	22 Mar 17		

Not affected utilities We have received a not affected/no plant present response from the following companies.

Utility	Category	Date Issued	Late Response Issue Date	Notes
BPA	Pipeline,	22 Mar 17		
C.A. Telecom UK - [Colt Technology Services]	Telecom,	22 Mar 17		
CityFibre	Telecom,	22 Mar 17		Website used.
Energetics	Gas, Electric, Water,	22 Mar 17		
GTC	Telecom, Gas, Electric, Water, Pipeline,	22 Mar 17		
Instalcom - [Level 3, Global Crossing (UK) & PEC and Fibernet UK]	Telecom,	22 Mar 17		
Interoute Vtesse	Telecom,	22 Mar 17		
McNicholas - [KPN International]	Telecom,	22 Mar 17		
McNicholas - [TATA Communications]	Telecom,	22 Mar 17		
Network Rail	Rail,	22 Mar 17		
Plancast - [Interoute]	Telecom,	22 Mar 17		
SKY Telecommunications Services	Telecom,	22 Mar 17		
SSE	Telecom, Gas, Electric,	22 Mar 17		Website used.
Trafficmaster	Other,	22 Mar 17		Website used.
Verizon	Telecom,	22 Mar 17		
Vodafone	Telecom,	22 Mar 17		

Checked and Validated By Kevin Willock

Date 22 March 2017



Definition of Terms

Affected Utility supplier is expected to be affected by any work carried out in the area searched as their records indicate their plant is in or close to the area searched. It is recommended to anybody carrying out works in the area that they should consult with the utility company as soon as possible and in any event prior to carrying out any works.

No response received At the date of sending the report no response has been received from the utility supplier.

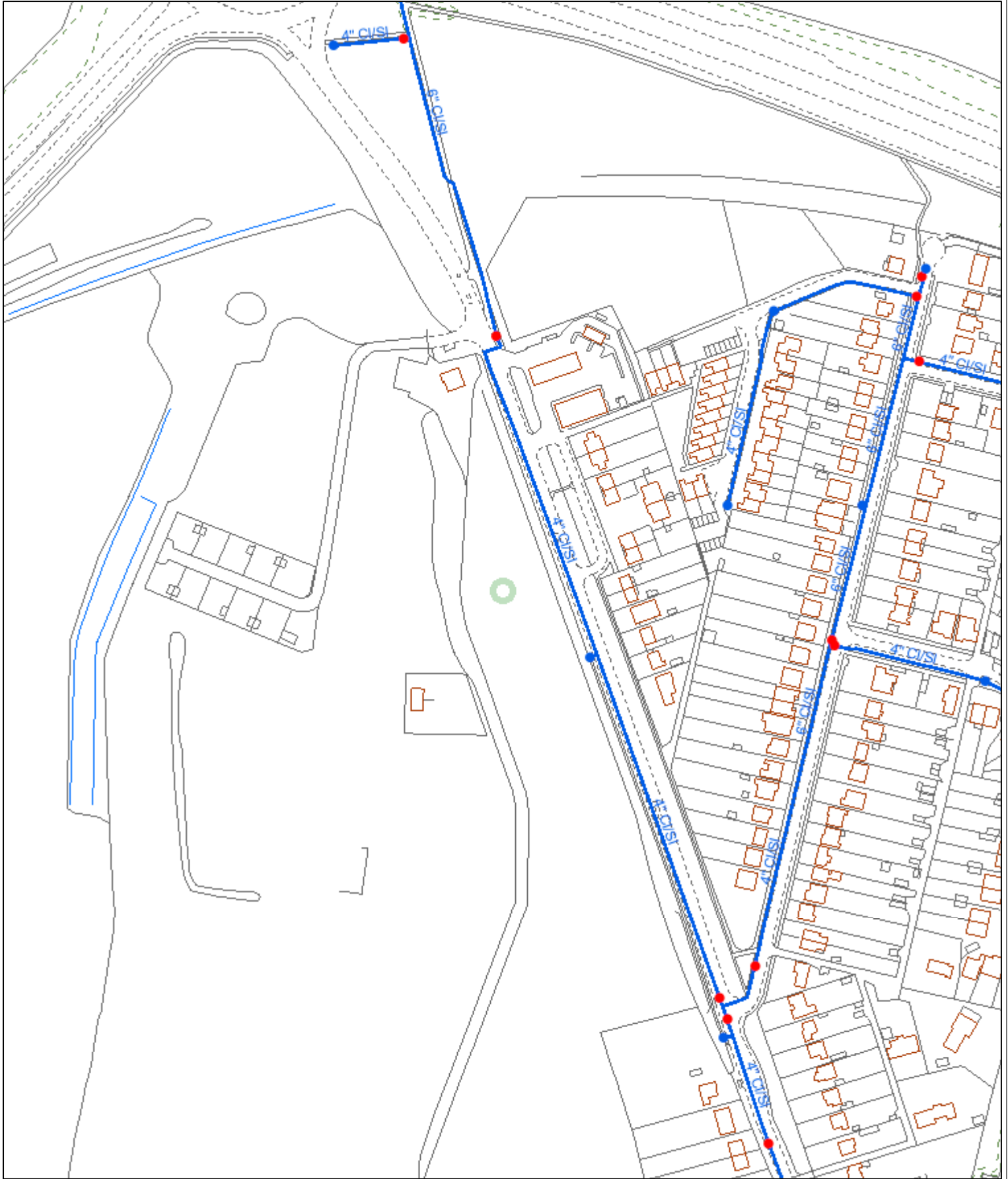
Not affected Utility supplier is not expected to be affected by any work carried out in the area searched as their records indicate their plant is not in or close to the area searched.

Utilities Report



Affected Utilities

Affinity Water - (Central Region)



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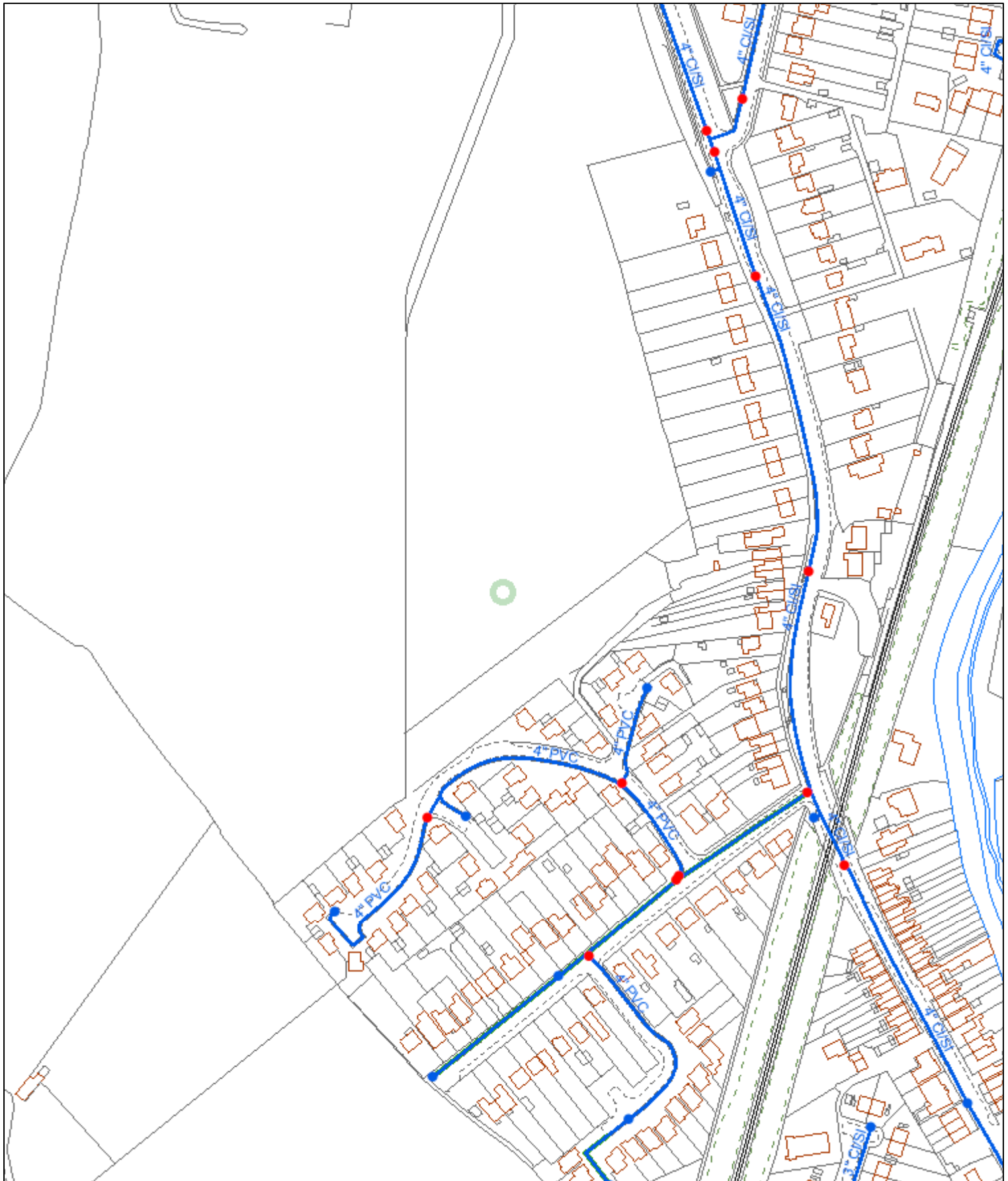
Plans are continuously being updated, so out of date plans should be destroyed and not relied upon. The position of apparatus shown on this plan is provided for guidance only and should not be relied upon as being precise. Therefore the Company accepts no responsibility in the event of inaccuracy. Service pipes are not necessarily shown on this plan. Cover is normally 915mm for mains and 750mm for communication pipes but this may vary.

The actual position of apparatus must be determined on site by making hand dug trial holes. The Company requires a minimum of two working days notice of the intention to excavate trial holes.

Except where prior written permission has been obtained, it is an offence under Section 174 of the Water Industry Act 1991 to operate or interfere with any valves, hydrants or other apparatus vested in Affinity Water.



	Distribution Main		Hydrant
	Asbestos Distribution Main		Fitting
	Abandoned Main		Easement
	Asbestos Abandoned Main		Company Boundary
	Adit / Tunnel		
	Cable		
	Searched Location		



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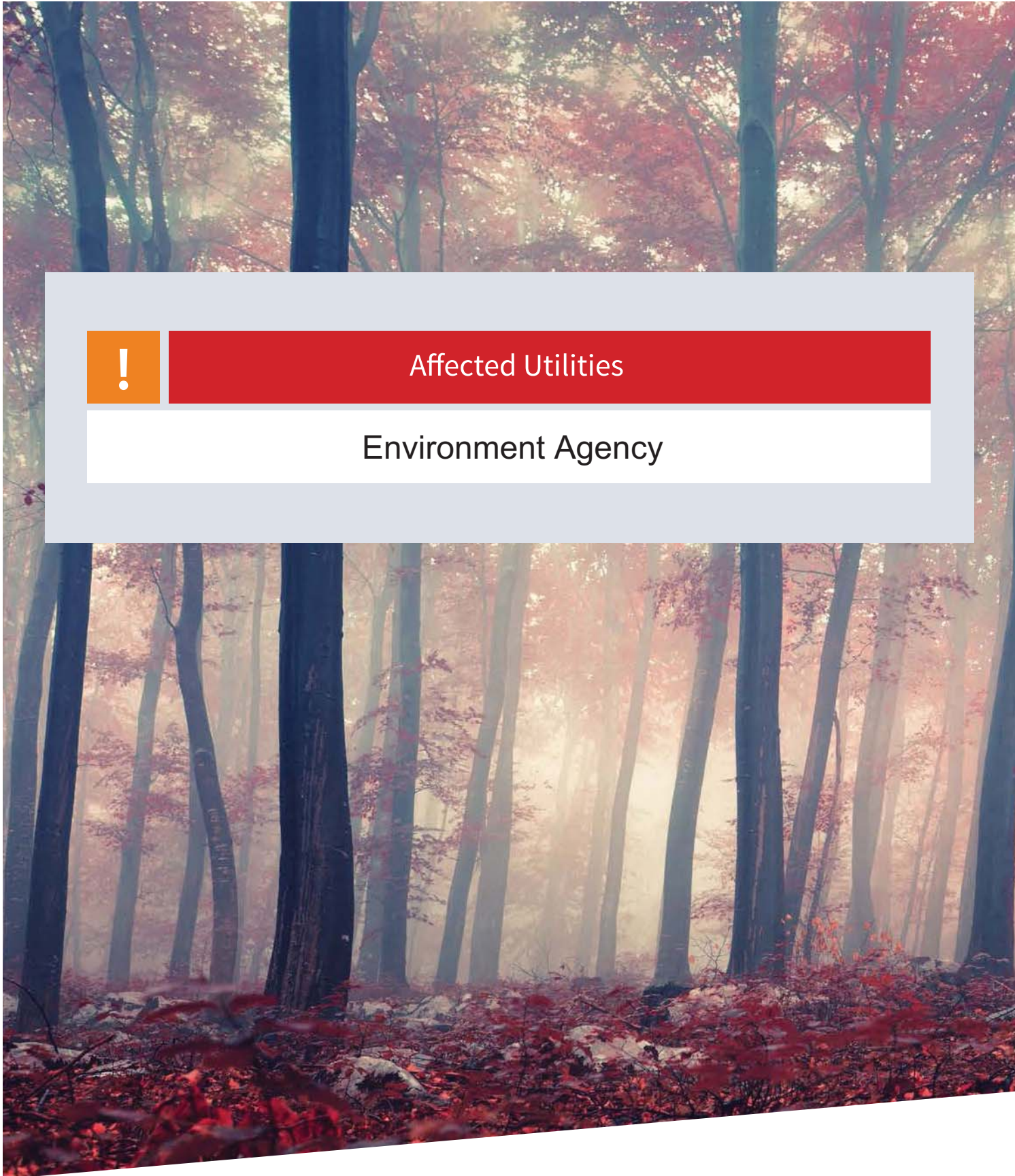
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	Cable		
	Searched Location		

Utilities Report



Affected Utilities

Environment Agency

Priya, Shubha

From: Enquiries, Unit <enquiries@environment-agency.gov.uk>
Sent: 28 February 2017 17:09
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 52948 - Site off Watling Street, St Albans - Please respond by 16/03/2017

Good morning,

You may need an environmental permit if you intend to carry out work in, under, over or near to a main river flood or sea defence. You can find more information about this at:

<https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>

Although the Environment Agency is classed as a statutory undertaker for certain purposes, we do not generally have plant equipment or pipelines situated in the public highway.

We have drafted this reply without conducting a specific search of our records. We ask that you make the necessary checks and if you have reason to think that your proposal will affect land or equipment which we own or is close to a watercourse as defined above, please resubmit your enquiry making this clear in your reply.

Kind Regards,
Adam
ICS
Environment Agency

From: atkinsstatutory.enquiries@atkinsglobal.com [mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 24 February 2017 06:28
To: plantenquiries@catelecomuk.com; plantenquiries@energetics-uk.com; Enquiries, Unit <enquiries@environment-agency.gov.uk>; plantenquiries@instalcom.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@mcnicholas.co.uk; opburiedservicesenquiries@networkrail.co.uk; interoute.enquiries@plancast.co.uk; nrswa@sky.uk; osp-team@uk.verizon.com; osp-team@uk.verizonbusiness.com; osm.enquiries@atkinsglobal.com
Cc: atkinsstatutory.enquiries@atkinsglobal.com
Subject: Plant Enquiry - 52948 - Site off Watling Street, St Albans - Please respond by 16/03/2017

Our Reference: 52948
Site Name: Site off Watling Street, St Albans
Works Description: Development Appraisal
Site Grid References: 514590 204537,514648 204333,514499 204436,514537 204851,514500 204223

To whom it may concern,

Please find enclosed a plant enquiry for your attention.

We request plans showing the location of your company's affected plant in relation to the [entire site area shown within the boundary on the attached map](#). Grid references and postcodes relative to the site boundary are provided on the attached map to help you locate the site.

Within your response please quote our reference number and the name of the site shown above. If you do not have any apparatus in this area, please could you send written confirmation to declare that no apparatus is affected. Please also include information relating to the use and location of Radio Frequency Identification Devices (RFIDs) where available.

Standard notice [not for use with Special Data, Personal Data or unlicensed 3rd party rights]



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We (The Environment Agency) do not promise that the Information supplied to You will always be accurate, free from viruses and other malicious or damaging code (if electronic), complete or up to date or that the Information will provide any particular facilities or functions or be suitable for any particular purpose. You must ensure that the Information meets your needs and are entirely responsible for the consequences of using the Information. Please also note any specific information warning or guidance supplied to you.




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-  exploit the Information commercially, for example, by combining it with other Information, or by including it in your own product or application

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-  acknowledge the source of the Information by including the following attribution statement:
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-  ensure that you do not mislead others or misrepresent the Information or its source or use the Information in a way that is detrimental to the environment, including the risk of reduced future enhancement
-  ensure that your use of the Information does not breach the Data Protection Act 1998 or the Privacy and Electronic Communications (EC Directive) Regulations 2003

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- internal use for any purpose, or offering a product or service based on the Information for indirect commercial advantage, by an organisation that is primarily engaged in trade, commerce or a profession.

Utilities Report



Affected Utilities

Hertfordshire County Council

Priya, Shubha

From: Nick Sadowsky <Nick.Sadowsky@hertfordshire.gov.uk> on behalf of Highway Structures <Highway.Structures@hertfordshire.gov.uk>
Sent: 28 February 2017 14:21
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 52948 - Site off Watling Street, St Albans - Please respond by 16/03/2017
Attachments: Site Details 52948.pdf

YES RESPONSE

Hello Atkins,

Thank you for your enquiry Ref 52948. There is 1 structures located within the boundary of your location plan (see attached). Please forward any details of the intended works if they impact on or will be within 5m of the structures listed below. Any works that impact on the structures will have to be agreed with the HCC Bridges & Structures team prior to commencement on site.

Structure No:	Structure Name:	Owner:	Comments:	Grid Ref:
2236	Park Road Station Retaining Wall	HCC	Retains footpath adjacent to A5183	E: 514638 N: 204552

HCC Structures can be contacted directly by email at highway.structures@hertfordshire.gov.uk if you require any further information.

Regards,

Bridges and Structures

Hertfordshire County Council, County Hall, Pegs Lane, Hertford, SG13 8DN
t: 01992 556212 **Comnet / Internal:** 26212

<http://www.hertfordshire.gov.uk> / [twitter](#) / [facebook](#)

Hertfordshire - County of Opportunity

From: Statutory Enquiries [<mailto:AtkinsStatutory.Enquiries@atkinsglobal.com>]
Sent: 24 February 2017 06:28
To: Highway Structures
Subject: Plant Enquiry - 52948 - Site off Watling Street, St Albans - Please respond by 16/03/2017

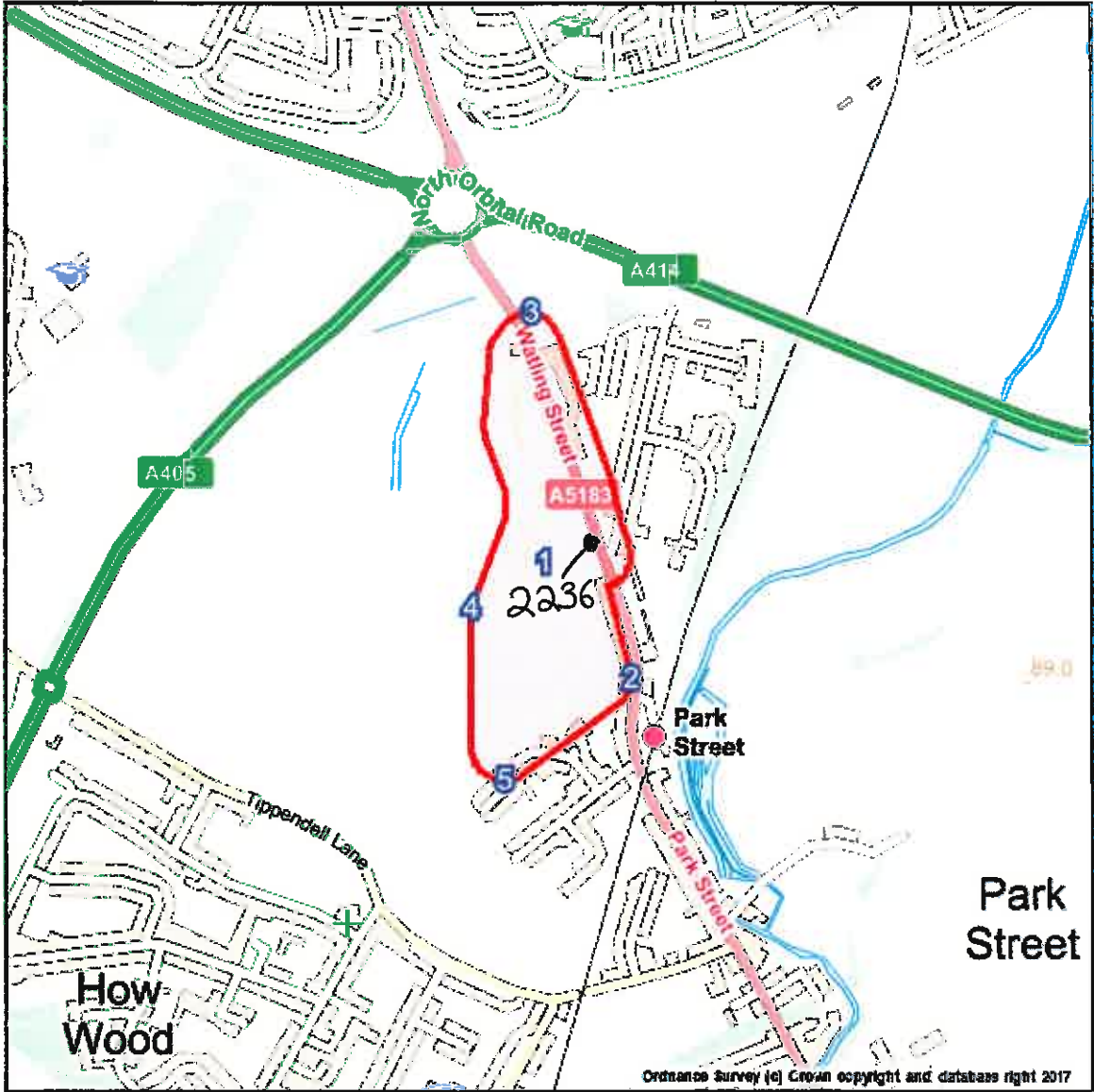
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MAP SCALE: 1:10000

COORDINATES:


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Highways Fault Reporting

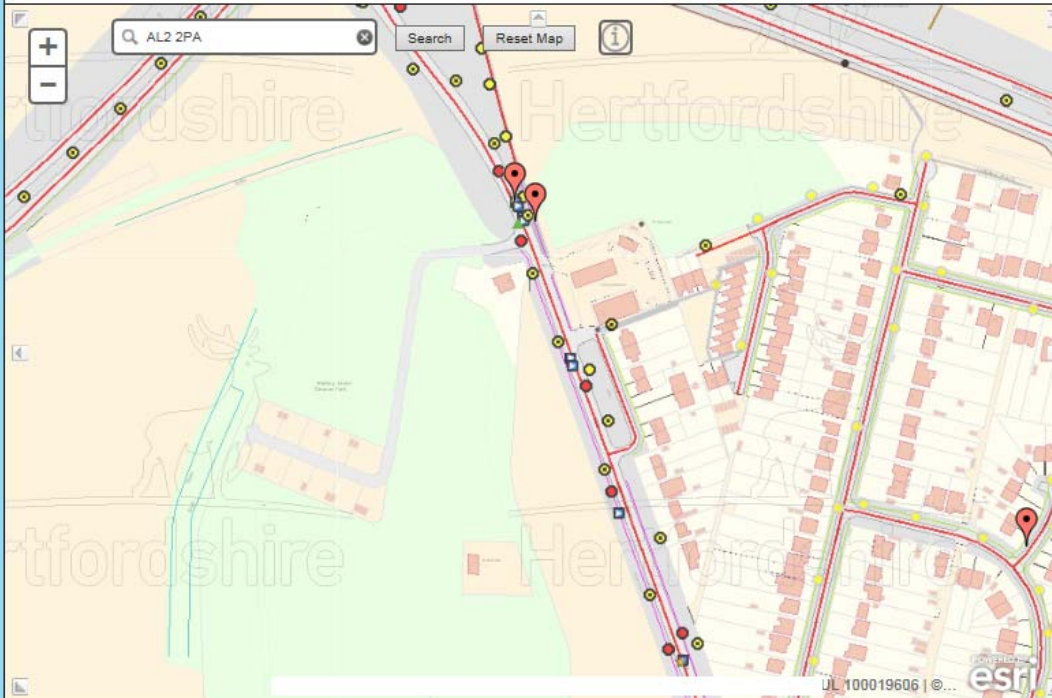
[Citizen Login](#) | [Business login](#)

Click on the map to select the fault location You need to zoom in so that you can see symbols for streetlights and other features.











The map shows faults already reported as pins . Click on the pin for details of the fault and you can subscribe to it to receive email updates without needing to log the fault again.

To log a new fault single click on the map. You can select footways, road/cycleways, streetlights and more. Please check the feature that you are reporting is as accurate as possible from the options that appear in the bottom left. A key is underneath the map.

View [quick guide](#) for more help. If you are stuck, please reset the map or try starting again.



Key

-  - Street light
-  - Street light LED
-  - Part night lit Street light
-  - Private Street light
-  - Subway light
-  - Lit sign
-  - Safety Bollard
-  - Beacon or Flasher
-  - Traffic signal
-  - Salt bin


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Highways Fault Reporting

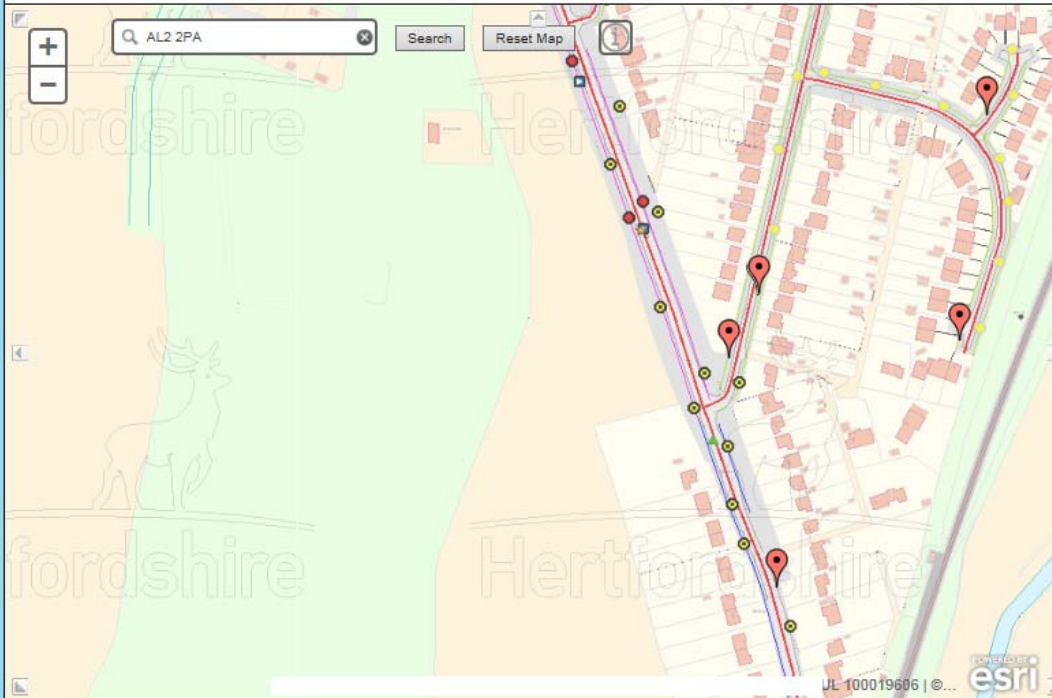
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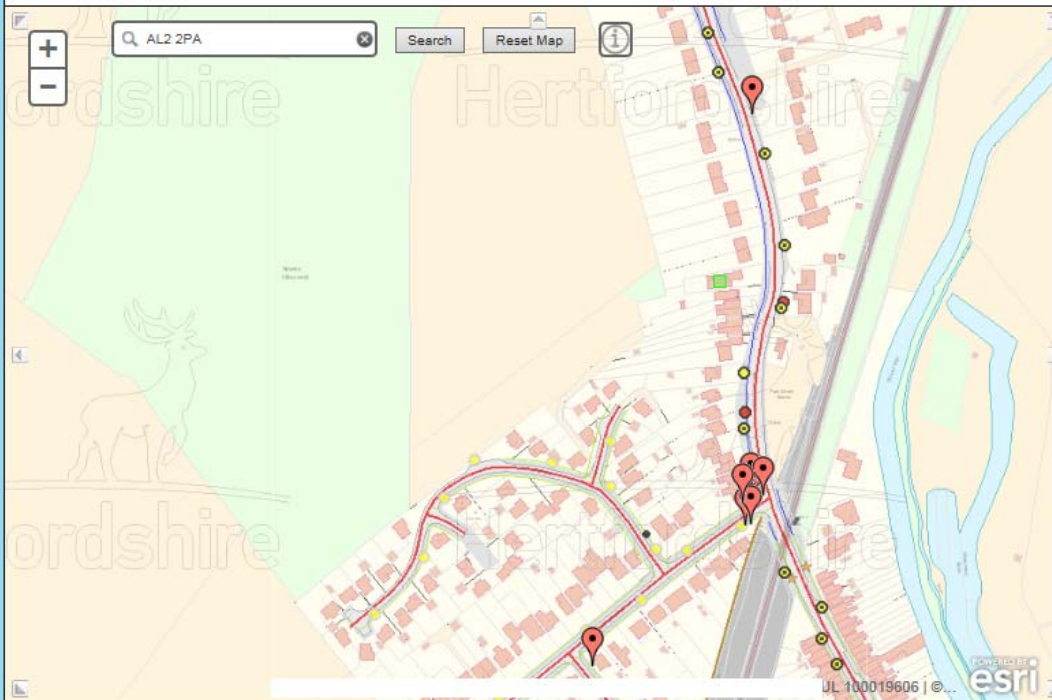
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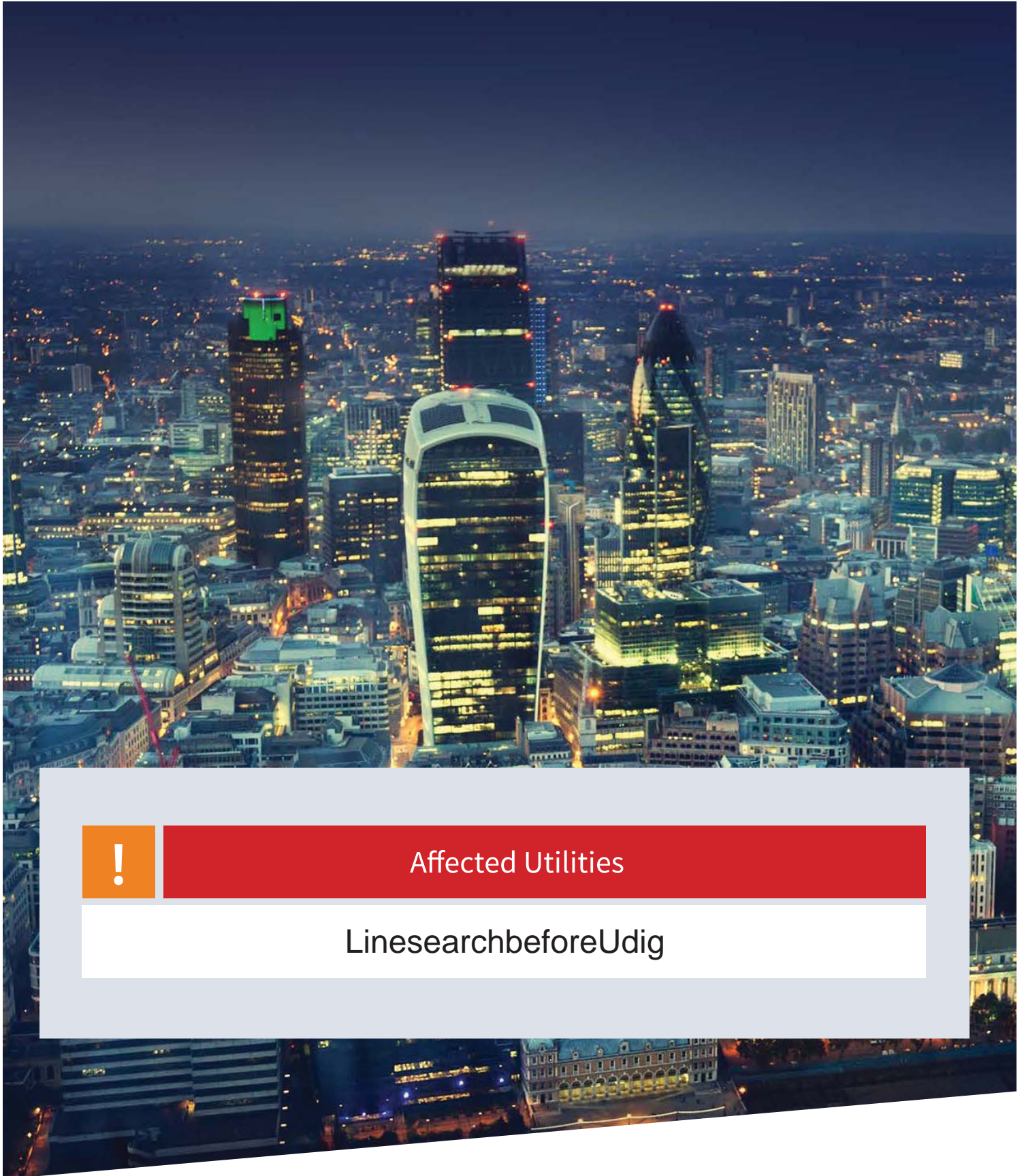


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Utilities Report



Affected Utilities

LinesearchbeforeUdig

Enquirer			
Name	Ms Christina Elliott	Phone	01454 662397
Company	Atkins	Mobile	Not Supplied
		Fax	Not Supplied
Address	500 Park Avenue Aztec West Almondsbury Bristol BS32 4RZ		
Email	stat.enquiries@atkinglobal.com		
Notes	Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.		

Enquiry Details			
Scheme/Reference	LM 52948/SuG		
Enquiry type	Initial Enquiry	Work category	Utility Works
Start date	16/03/2017	Work type	Single excavation site
End date	16/06/2017	Site size	173751 metres square
Searched location	XY= 514563, 204512 Easting/Northing	Work type buffer*	25 metres
Confirmed location	514578 204530		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.



LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members			
Asset Owner	Phone/Email	Emergency Only	Status
BPA	01442218911 lands@bpa.co.uk	0182763708	Email Additional Info
National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	0800688588	Gas 0800111999 Electricity 0800404090	Await response

LSBUD members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD members make regular changes to their assets.

List of not affected LSBUD members		
AWE Pipeline	Esso Petroleum Company Limited	Petroineos
BOC Limited (A Member of the Linde Group)	Fulcrum Pipelines Limited	Phillips 66
BP Midstream Pipelines	Gamma	Premier Transmission Ltd (SNIP)
Carrington Gas Pipeline	Gateshead Energy Company	Prysmian Cables & Systems Ltd (c/o Western Link)
CATS Pipeline c/o Wood Group PSN	Humbly Grove Energy	Redundant Pipelines - LPDA
Cemex	IGas Energy	RWEnpower (Little Barford and South Haven)
Centrica Energy	Ineos Enterprises Limited	SABIC UK Petrochemicals
Centrica Storage Ltd	INEOS Manufacturing (Scotland and TSEP)	Scottish Power Generation
CLH Pipeline System Ltd	Intergen (Coryton Energy or Spalding Energy)	Seabank Power Ltd
Concept Solutions People Ltd	Lark Energy	Shell (St Fergus to Mossmorran)
ConocoPhillips (UK) Ltd	Lightsource SPV Limited	Shell Pipelines
DIO (MOD Abandoned Pipelines)	Mainline Pipelines Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
Dong Energy (UK) Ltd	Manchester Jetline Limited	Transmission Capital
E.ON UK CHP Limited	Manx Cable Company	Uniper UK Ltd
EirGrid	Marchwood Power Ltd (Gas Pipeline)	Vattenfall
Electricity North West Limited	Northumbrian Water Group	Veolia ES SELCHP Limited
ENI & Himor c/o Penspen Ltd	NPower CHP Pipelines	Western Power Distribution
ESP Utilities Group	Oikos Storage Limited	Wingas Storage UK Ltd
ESSAR	Perenco UK Limited (Purbeck Southampton Pipeline)	Zayo Group UK Ltd c/o JSM Group Ltd