
DESK STUDY REPORT

Studio 4
37 Broadwater Road
Welwyn Garden City
Hertfordshire

Client: Stay New Homes Limited

J16261

November 2016



Document Control

Project title		Studio 4, 37 Broadwater Road, Welwyn Garden City, Herts, AL7 3AX		Project ref	J16261
Report prepared by					
		Susie Marley BSc FGS			
Report checked and approved for issue by					
		Steve Branch BSc MSc CGeol FGS FRGS MEnvSc			
Issue No	Status	Amendment Details	Date	Approved for Issue	
1	Final		18 November 2016		

This report has been issued by the GEA office indicated below. Any enquiries regarding the report should be directed to the office indicated or to Steve Branch in our Herts office.



Hertfordshire

tel 01727 824666

mail@gea-ltd.co.uk



Leicestershire

tel 01509 674888 midlands@gea-ltd.co.uk

Geotechnical & Environmental Associates Limited (GEA) disclaims any responsibility to the Client and others in respect of any matters outside the scope of this work. This report has been prepared with reasonable skill, care and diligence within the terms of the contract with the Client and taking account of the manpower, resources, investigation and testing devoted to it in agreement with the Client. This report is personal and confidential to the Client, may only be relied upon by the Client to whom it is addressed and the benefit of the report or any part may not be assigned by the Client to any third party without the consent of GEA. GEA accepts no responsibility whatsoever to any third parties to whom this report or any part thereof is made known. Any such parties rely upon the report at their own risk. This report may provide advice based on an interpretation of legislation, guidance notes and codes of practice. GEA does not however provide legal advice and if specific legal advice is required a lawyer should be consulted.

© Geotechnical & Environmental Associates Limited 2016

CONTENTS

EXECUTIVE SUMMARY

1.0	INTRODUCTION	1
1.1	Proposed Development	1
1.2	Purpose of Work	1
1.3	Scope of Work	1
1.4	Limitations	2
2.0	THE SITE	2
2.1	Site Description	2
2.2	Site History	4
2.3	Other Information	5
3.0	GROUND CONDITIONS	7
3.1	Soil Conditions	7
3.2	Groundwater Conditions	7
4.0	RISK ASSESSMENT	8
4.1	Environmental Risks	8
4.2	Development Issues	11
5.0	CONCLUSIONS	12

APPENDIX

EXECUTIVE SUMMARY

This executive summary contains an overview of the key findings and conclusions. No reliance should be placed on any part of the executive summary until the whole of the report has been read. Other sections of the report may contain information that puts into context the findings that are summarised in the executive summary.

BRIEF

This report describes the findings of a desk study carried out by Geotechnical and Environmental Associates Limited (GEA) on the instructions of Stay New Homes Limited. The purpose of the work has been to determine the history of the site, to assess the potential for contamination and to provide preliminary information on foundation options with respect to the proposed redevelopment of the site. The development comprises conversion of the existing office into residential use, including the construction of an extension and the addition of two storeys to the existing building, to provide 24 apartments.

DESK STUDY FINDINGS

The earliest map studied, dated 1878, shows the site to be undeveloped, comprising part of an open field with a boundary along the eastern margin of the site, most likely associated with Peartree Farm approximately 110 m to the northeast. A clay pit was located around 100 m to the north-northeast, directly west of Peartree Farm. By 1938, considerable changes had occurred to the site and its surroundings, with a large rectangular building identified as a 'Manufactory - Silk Garment' occupying the western portion of site. The surrounding area had been developed significantly, with Broadwater Road directly to the west of the site, as it is currently, and a manufactory of chemical products on the other side of the road. Buildings lined the road, with paths separating the site from factories to the north and south, both labelled as Manufactory - Confectionery. Extensive housing developments had been constructed to the east of the site. By 1960, a small cluster of rectangular bays was located in the southeastern corner of the site, and the site has since essentially remained unchanged. The 1968 historic map indicates a chemical works to occupy the building on site, with the building to the north comprising a pharmaceutical works with an associated tank around 45 m north of the site. By 1986, additional tanks had been constructed within the works to the west of the site, which consisted of three rounded tanks and a smaller rectangular tank around 175 m from the site. The building to the north of the site is no longer indicated to comprise works, although the tank remained. The works occupying the building on site are absent by 1994. The current map indicates the area to the north to have remained industrial, and includes works, factories and gasholders.

CONTAMINATION RISK ASSESSMENT

The historical usage of the site that has been established by the desk study indicates that the site has a potentially contaminative history by virtue of it having been occupied by a manufactory by 1938, relabelled as works since 1960 and indicated to be a chemical works in 1968. This is in addition to the industrial surroundings including a chemical manufactory (works) in the building to the west, a pharmaceutical works in the building to the north including an associated tank around 45 m north of the site, and an engineering works occupying the building to the south. A registered landfill site 134 m to the north of the site, and two waste treatment or disposal sites are located 77 m to the north and 87 m to the southwest. There is therefore considered to be a low / moderate risk of contamination and contamination testing will need to be included in the ground investigation.

FOUNDATIONS

The site should be underlain by Glacial Till, which would normally provide a suitable bearing stratum for lightly to moderately loaded spread foundations. However, foundations may need to be deepened near trees and there will be issues with dissolution features in the chalk, which will have implications for the foundation design. Reinforced foundations may be required or consideration may need to be given to piling. A ground investigation should be carried out in order to determine the engineering properties of the soil, which will also provide an opportunity to recover samples for contamination testing. A preliminary enquiry has been made to Welwyn Hatfield Borough Council with respect to the risk of solution features in the area, and have advised that the requirements for a ground investigation with respect to solution features will be considered after the initial planning application including this desk study has been submitted.

1.0 INTRODUCTION

Geotechnical and Environmental Associates Limited (GEA) has been instructed by Stay New Homes to carry out a desk study at Studio 4, 37 Broadwater Road, Welwyn Garden City, Herts, AL7 3AX.

1.1 Proposed Development

It is understood that the proposed redevelopment of the site is to include the conversion of the existing office into residential use, including the construction of an extension and the addition of two storeys to the existing building, to provide 24 apartments. New areas of soft landscaping are not thought to be included in the proposals.

This report is specific to the proposed development and the advice herein should be reviewed if the development proposals are amended.

1.2 Purpose of Work

The principal technical objectives of the work carried out were as follows:

- to determine the history of the site and surrounding area, particularly with respect to any previous or present potentially contaminative uses;
- to research the geology and hydrogeology of the site;
- to check records of data on groundwater, surface water and other publicly available environmental data;
- to use the information obtained in the above searches to carry out a qualitative risk assessment with respect to subsurface contamination; and
- to provide preliminary comments on foundation options and recommendations for appropriate ground investigation;

1.3 Scope of Work

In order to meet the above objectives, a desk study was carried out, comprising, in summary, the following activities:

- a review of readily available geological maps;
- a review of publicly available environmental data sourced from Envirocheck;
- a review of historical Ordnance Survey (OS) maps supplied by Envirocheck; and
- provision of a report presenting and interpreting the above data, together with our advice and recommendations with respect to the proposed development.

The report includes a contaminated land assessment which has been undertaken in accordance with the methodology presented in Contaminated Land Report (CLR) 11 and involves identifying, making decisions on, and taking appropriate action to deal with, land contamination in a way that is consistent with government policies and legislation within the United Kingdom

The risk assessment is thus divided into three stages comprising Preliminary Risk Assessment, Generic Quantitative Risk Assessment, and Site-Specific Risk Assessment, with the first two stages presented in this report.

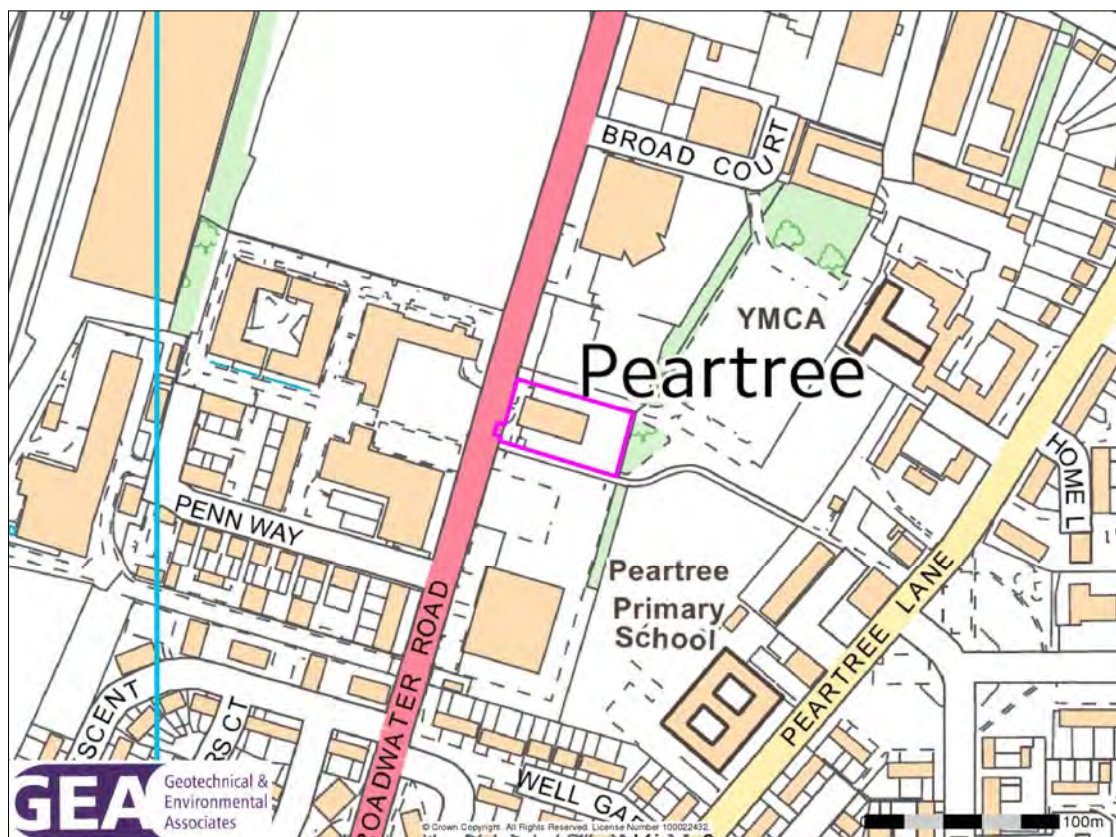
1.4 Limitations

The conclusions and recommendations made in this report are limited to those that can be made on the basis of the research carried out. The results of the research should be viewed in the context of the work that has been carried out and no liability can be accepted for matters outside the stated scope of the research. Any comments made on the basis of information obtained from third parties are given in good faith on the assumption that the information is accurate. No independent validation of third party information has been made by GEA.

2.0 THE SITE

2.1 Site Description

The site is located in Welwyn Garden City, Hertfordshire, approximately 0.45 km southeast of Welwyn Garden City Railway Station; it may additionally be located by National Grid Reference 524201 212553, and is shown on the map extract below.



The site forms a rectangular shape, measuring approximately 30 m north to south by 60 m east to west. A two-storey office building occupies the central portion of the site, and is surrounded by hardstanding used for the parking of vehicles, which is in relatively good condition, with few cracks, scars or stains with the exception of drainage and service covers.

The site occupies a relatively level area, with the hardstanding dipping down towards lines of drainage in the centre of the road surrounding the building on site. It is raised approximately 0.50 m above a footpath in the southeastern corner, although it is roughly 0.50 m below the level of the main road and path to the west. Two shallow slopes provide access to the site, with a narrow pathway directly to the west of the building for pedestrians, and via a drop-down curb from the road in the southwestern corner of the site for vehicles.

The central portion of the site is devoid of vegetation, although small flower beds including shrubs are located in the western portion of the site, bordering the site to the path along Broadwater Road. A cluster of cutback deciduous trees less than 10 m in height borders the site to the east, and there are some smaller trees along the northern and southern margins of the site.

The site is bounded by Broadwater Road to the west, which provides access, by a public footpath to the south, by a private road to the north and by a section of dense vegetation to the east. The public footpath separates the site from an area currently under development to the south, where it is understood that residential housing will be constructed. The private road to the north is owned by Royal Mail, and provides access to an area of hardstanding around 30 m northeast of the site used for the storage of company lorries. Directly to the east of the site, the patch of dense vegetation is triangular in shape and extends around 20 m to the east, beyond which is a woodland area that opens into a clearing from a distance of 70 m to 115 m east of the site. There is a significant circular depression in the ground at this location, which could potentially be a solution feature.

Anecdotal evidence obtained from the site adjacent to the south, where a building is currently under construction, has indicated that a “sinkhole” was encountered around 10 m south of the southeastern corner of 37 Broadwater Road. The feature was encountered at a depth of approximately 12.00 m, and is understood to have extended to a depth of around 18.00 m.



Potential sinkhole to east of the site



Lines of drainage at rear of building

An abandoned building is positioned on the opposite side of Broadwater Road, where it is also thought that a sinkhole was encountered, with a modern apartment complex around 30 m to the southwest. Around 50 m northwest of the site is an area of cleared land surrounded by wooden fencing, beyond which is an abandoned works building and associated industrial chimney around 200 m north of the site.

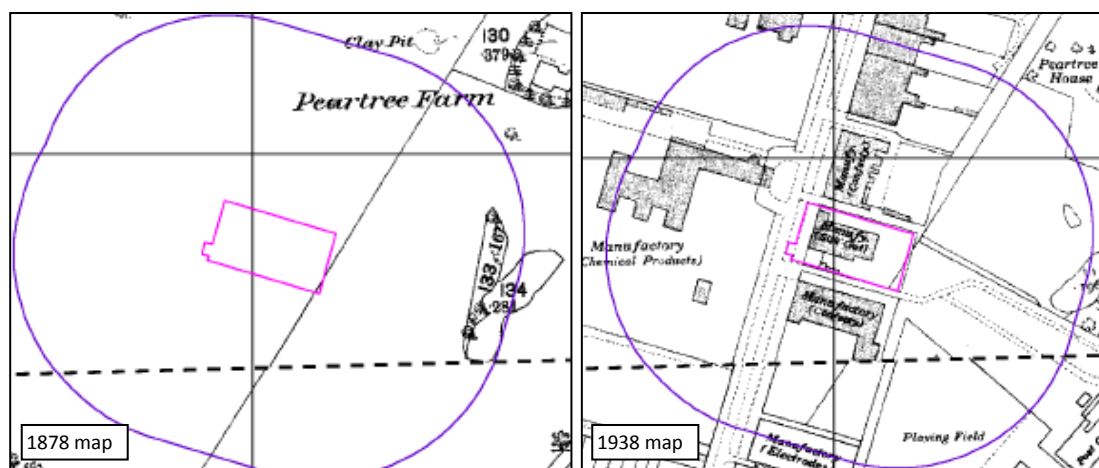
2.2 Site History

The site history has been researched by reference to internet sources and historical Ordnance Survey (OS) maps obtained from the Envirocheck database.

The earliest map studied, dated 1878, shows the site to be undeveloped, comprising part of an open field with a boundary along the eastern margin of the site, most likely associated with a small cluster of buildings named as Peartree Farm approximately 110 m to the northeast. The farm had a well around 160 m northeast of the site, and several ponds in the surrounding area including a large pond or lake 80 m to the east, with a smaller pond around 250 m southwest within a field adjacent to the site in the south, and smaller features around 130 m northwest and 190 m south. A clay pit was located around 100 m to the north-northeast, directly west of Peartree Farm. The north-northeast to south-southwest running Great Northern Railway Line was located around 270 m to the west of the site.

The site had remained unchanged by 1923, although Welwyn Garden City was located around 1 km to the northwest, and with Welwyn Garden City Railway Station around 570 m northwest. An Electric Power Station had been established around 480 m to the northeast of the site by 1925, although this was developed over by 1938. The brick works to the southwest were no longer indicated on the 1923 map, and Gravel Pit Cottages had been built 660 m to the south. A moat was labelled 250 m to the south.

Between 1925 and 1938, considerable changes had occurred to the site and its surroundings, with a large rectangular building identified as a 'Manufactory - Silk Garment' occupying the western portion of site. The area surrounding the site had been developed significantly, with Broadwater Road directly to the west of the site, as it is currently, and a manufactory of chemical products on the other side of the road. Buildings lined the road, with paths separating the site from factories to the north and south, both labelled as Manufactory - Confectionery. The path to the south of the site had extended towards Peartree Lane 150 m to the east, both as they are currently. To the north between distances of 110 m to 700 m, an industrial area had been established that included buildings annotated as Manufactory (Electric Heaters), Confectionery, Industrial Chemicals along with a Film Studios 110 m northwest, a laboratory 280 m north, a Lead Mill 360 m to the northeast and an Iron Foundry 540 m to the north. Extensive housing developments had been constructed to the east of the site, extending and surrounding Peartree Farm, including a Youth Hostel directly to the south of this 145 m east of the site, and the current school and associated playing field between distances of 20 m to 170 m to the southeast. Peartree House had been constructed over the Clay Pit to the north of the site.



The historic maps produced up to 1960 depict the site and its surroundings in varying detail, with some indicating works to be present on site and others only indicating engineering works to the north. In 1960, the building on site was labelled as works, and the building shape was slightly irregular in that there was a small extension towards the east. A small cluster of rectangular bays was located in the southeastern corner of the site, and the site has since essentially remained unchanged. The buildings to the south and west of the site are labelled as factories, although the building to the north is no longer labelled. The industrialised area remained to the north of the site, although the buildings were labelled as works, factories, warehouses and depots as opposed to manufactory. Welwyn Garden City Maternity Hospital had been constructed around 150 m northeast of the site, and the school to the southeast named Peartree County Primary School. A Freight Terminal had been constructed directly east of the railway, around 180 m northwest of the site.

At some time between 1960 and 1968, the original Peartree Farm buildings were redeveloped with what appears to be housing, although the layout to this remained labelled as Peartree Farm.

By 1968, the historical map indicates that a chemical works occupied the building on site, with the building to the north comprising a pharmaceutical works with an associated tank around 45 m north of the site. Further north, the industrial area encompassed several depots and warehouses, in addition to buildings identified as medical engineering, chemical works and engineering works. An engineering works occupied the building to the south of the site, and the Sand Pit and Gravel Pit Cottages further south had been developed over. A series of tanks was located around 80 m southwest of the site, associated with the chemical works on the other side of Broadwater Road. A car park was established directly northwest of the site.

By 1986, additional tanks have been constructed within the works to the west of the site, which consisted of three rounded tanks and a smaller rectangular tank around 175 m from the site. The building to the north of the site is no longer indicated to comprise works, although the tank remained.

The freight terminal was not indicated on the maps from 1991, although aerial photography from 1999 indicated the infrastructure to remain present at that time.

The works occupying the building on site had been replaced by 1994. The lead mill 360 m northeast was present in 1991, although the building designation was replaced by an unknown works by 1993.

The 2006 map depicts the works to the west of the site to still be present, although this is no longer indicated by the current 2016 map, which also shows the factory and associated buildings around 50 m northwest of the site to have been cleared. The area to the north has remained industrial, including works and factories.

2.3 Other Information

A search of public registers and databases has been made via the Envirocheck database and relevant extracts from the search are appended. Full results of the search can be provided if required.

The search has revealed that there are several natural cavities recorded within 250 m of the site. Sinkholes have been identified at distances of 22 m, 96 m and 190 m to the north, and 56 m to the northeast. These features are in addition to the sinkhole encountered on the site adjacent to the south and on the opposite side of Broadwater Road, according to anecdotal evidence, and a further potential solution feature to the east of the site in the area of cleared land.

There is a single historical landfill site and three licensed waste management sites within 1 km of the site, although these are 968 m south, 753 m northeast, 936 m northeast and 969 m southwest respectively. There are two registered waste transfer sites within 1 km of the site, located 889 m northeast and 992 m southwest. All features are at such a distance that they are not expected to affect the site.

There is a registered landfill site 134 m to the north of the site, located at No 30 Broadwater Road. The site category is stated as soakaway, with authorised waste listed as aqueous effluent waste, and industrial effluent treatment sludge. In addition, two waste treatment or disposal sites are located within 100 m of the site, at 77 m to the north and 87 m to the southwest. The former is also located at No 30 Broadwater Road, although is attributed to Polycell Products Limited, with the site category as storage for approved waste comprising aqueous effluent waste. The latter is located at No 40 Broadwater Road, Roche Products Limited, with approved waste including solvents chlorinated and unchlorinated A and B within the site category of drummed storage.

There are no areas of potentially infilled land (non-water) within 500 m of the site. There are however several areas of infilled land (water) expected to be associated with surrounding ponds indicated in the earliest map studied, dated 1878.

There are two integrated pollution control features between 101 m and 107 m to the west, also associated with Roche Products Limited at No 40 Broadwater Road, dated between February 1994 and February 2000, although the most recent is listed as revoked. There are no other integrated pollution control or pollution and prevention controls within 250 m of the site. There are no pollution incidents to controlled waters within 250 m of the site. Roche Products are listed inactive.

There are two Control of Major Accident Hazardous Sites within 1 km of the site, located 691 m northeast and 698 m northeast, and there is a Planning Hazardous Substance Consent 635 m northeast of the site. There are all at such a distance that they are unlikely to affect the site.

There are several registered radioactive substances within 100 m of the site, located at distances between 4 m and 93 m from the site. The most recent listed feature is in 2002, the status of which is revoked / cancelled.

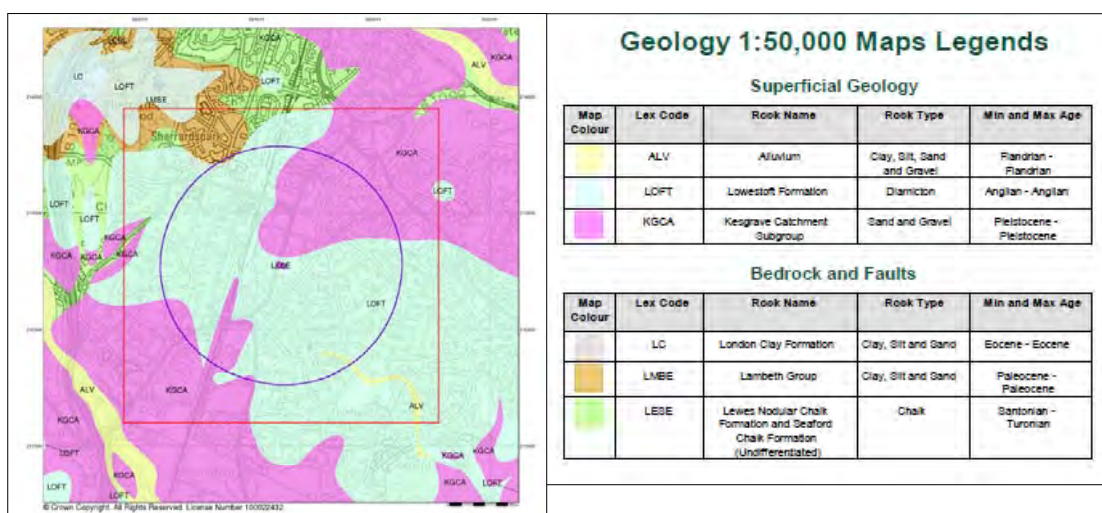
There are no active Contemporary Trade Directory entries and no Points of Interest with respect to commercial services or public infrastructure within 100 m of the site. There are several Points of Interest within manufacturing and production indicated to be in proximity of the site, with three unspecified works or factories within 100 m at 68 m west, 81 m southwest and 84 m south. There are no fuel station entries within 250 m of the site.

Reference to records compiled by the Health Protection Agency (formerly the National Radiological Protection Board) indicates that the site falls within an area where less than 1% of homes are affected by radon emissions and therefore radon protective measures will not be necessary.

3.0 GROUND CONDITIONS

3.1 Soil Conditions

The British Geological Survey (BGS) map of the area (Sheet 239) indicates the site to be underlain by the Lowestoft Formation, which typically comprises chalky till, together with outwash sands, gravels, silts and clays, and is characterised by its chalk and flint content. This is expected to be underlain by chalk of the Lewes Nodular Chalk Formation And Seaford Chalk Formation. The site is within a developed area, and so it is likely that made ground will be present.



The BGS records show several boreholes surrounding the site. The nearest recorded borehole was located approximately 210 m to the northwest, and indicated made ground to a depth of 1.00 m over clayey sand and gravel to 4.70 m, beneath which was stiff brown sandy clay to 7.00 m. Brown sandy gravel was encountered to 13.00 m, whereupon chalk with abundant flint was encountered to 15.20 m over chalk with rare flint to the full depth of investigation at 30.00 m. A significant concentration of volatile organic compounds was detected below 12.00 m depth, indicating the presence of contamination.

A second borehole located 240 m to the southwest encountered clay to around 7.90 m, with gravel at depths of between 1.50 m and 4.80 m, and 6.70 m to 7.90 m, and sand at depths of between 4.80 m and 5.70 m. Sand and gravel was then encountered to a depth of 13.70 m, beneath which the chalk was encountered to the full depth of investigation at around 91.50 m. The chalk initially contained flint to a depth of around 77.5 m, whereupon it is noted as grey chalk to around 79.00 m, with flints encountered again to the full depth of investigation.

3.2 Groundwater Conditions

The nearest surface water feature is indicated by the Envirocheck report to be 73 m to the southwest, although the nearest visible surface water feature is a lake within Stanborough Park around 1.6 km to the southwest. Groundwater flow is expected to be roughly towards this in an approximately southwesterly direction.

There are no discharge consents within 500 m of the site, although there are two water abstraction points within 250 m of the site located 180 m and 181 m to the west. The first was operated by George Wimpey UK limited with the permit start date listed as 2007 and no end date recorded.

This feature is also listed as being operated by Roche Products Limited in 1996 and 2005, all from two grouped boreholes and so expected to be the same feature. The second was also operated by Roche Products Limited, although no end date has been supplied. It is unknown whether abstraction at these features is ongoing.

The bedrock, referring to the chalk, is designated as a Principal Aquifer, formerly designated major aquifers, classified as layers of rock or drift deposits that have high intergranular and or fracture permeability, and therefore usually provide a high level of water storage. They may support water supply and or river base flow on a strategic scale.

The Superficial Glacial Till deposits are classified as Secondary Undifferentiated, meaning that it has not been possible to attribute a Secondary A or B categorisation to the rock type, which have also previously been designated as both a minor and non-aquifer in the past due to the variable characteristics of the rock.

The site is not at risk of flooding or extreme flooding from rivers or the sea; however the area directly to the north of the site is indicated to be at risk of surface water flooding.

The site is within a Source Protection Zone (III), defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source, or total catchment. The site is also located within a Nitrate Vulnerable Zone.

A test pump was carried out in the aforementioned BGS borehole to the northwest of the site, with the water level at the start of the test recorded at 22.75 m within the chalk, which was also recovered to this depth at the end of the test. The borehole to the southwest encountered groundwater at a depth of 24.00 m also within the chalk. No groundwater seepages were noted.

4.0 RISK ASSESSMENT

Consideration is being given to the conversion of the existing office into residential use, including the construction of an extension and the addition of two storeys to the existing building, to provide 24 apartments.

4.1 Environmental Risks

Part IIA of the Environmental Protection Act 1990, which was inserted into that Act by Section 57 of the Environment Act 1995, provides the main regulatory regime for the identification and remediation of contaminated land. As part of the new regime local authorities are required to carry out inspections of their area to identify sites that may be contaminated. The determination of contaminated sites is based on a "suitable for use" approach, which involves managing the risks posed by contaminated land by making risk-based decisions. This risk assessment is carried out on the basis of establishing one or more "pollution linkages"; a pollution linkage requires a source of contamination, a sensitive target or receptor that is at risk from the contamination and a pathway by which the contamination can travel from the source to the target.

A risk assessment should be carried out for consideration by the Local Planning Authority (LPA) before the planning application is determined. Where unacceptable risks are identified proposals will need to be made to address these risks as part of the development process. The guidance recognises the benefits of a phased approach and the desk study is the first phase in the process of investigating and identifying contamination to assist in the determination of a planning application.

4.1.1 Source

The historical usage of the site that has been established by the desk study indicates that the site has a potentially contaminative history by virtue of the site and its immediate surroundings having been occupied with the following historical and existing industries and features:

- ❑ manufactory present on site by 1938;
- ❑ building on site annotated as works since 1960, relabelled as chemical works in 1968;
- ❑ chemical manufactory (works) occupying building to the west;
- ❑ pharmaceutical works in the building to the north including an associated tank around 45 m north of the site;
- ❑ engineering works occupying the building to the south;
- ❑ a registered landfill site 134 m to the north of the site with authorised waste listed as aqueous effluent waste, and industrial effluent treatment sludge; and
- ❑ two waste treatment or disposal sites at 77 m to the north and 87 m to the southwest, the former as storage for approved waste comprising aqueous effluent waste, and the latter approved waste for drummed storage including solvents chlorinated and unchlorinated A and B.

This is in addition to the industrial surroundings to the north of the site, which included works, factories and depots.

With reference to a range of relevant DoE Industry Profiles¹, the following are considered to be potential contaminants associated with the above list of potential sources of contamination:

- ❑ metals;
- ❑ inorganic compounds and organic solvents;
- ❑ acids/ alkalis;
- ❑ asbestos;
- ❑ tars from primary processes;
- ❑ fuel oils and coals; and
- ❑ Polychlorinated Biphenols (PCBs).

4.1.2 Receptor

The proposed development of the site includes the conversion of the current office building to residential use, with the potential for areas of soft landscaping. End users will therefore represent relatively high sensitivity receptors.

As the site is underlain by a Principal Aquifer, groundwater is also considered to be a high sensitivity receptor.

¹ Department of the Environment Industry Profile (1996) *Engineering works, electrical and electrical equipment manufacturing works*. HMSO

Neighbouring sites are considered to be moderately sensitive receptors, although this is dependent on a pathway existing between a potential source of contamination on site and the neighbouring sites as receptors.

Buried services are likely to come into contact with contaminants present within the soils through which they pass, and site workers are likely to come into contact with any contaminants present in the soils during construction works. These both represent high sensitivity receptors.

4.1.3 Pathway

End users may be isolated from direct contact with any contaminants present within the soil or made ground by the presence of the existing building and proposed extension, and the extent of hardstanding surrounding this. There will therefore be a limited potential for contaminant exposure pathways, as the building and hardstanding will effectively form a barrier between any contaminants within the near-surface soils and end-users or infiltration of surface water.

However, if areas of soft landscaping are incorporated into the design, a pathway will exist by which end users can come into contact with any contamination in the shallow soils, via direct contact, accidental ingestion of soil and soil derived dust and soil adhering to home grown produce.

During the construction period there is considered to be a pathway for site workers to be exposed to any contaminants present within the soil through direct contact and site workers will come into contact with the soils during demolition and construction works.

The superficial deposits beneath the site are variably permeable and as such, there may be a pathway to the underlying Principal Aquifer.

There is thus considered to be a moderate potential for a significant contamination pathway to be present between any potential contaminant source and a target for the particular contaminant beneath the new building and extent of any hardstanding.

4.1.4 Preliminary Risk Appraisal

In accordance with the guidelines provided by CIRIA², the following table summarises possible pollution linkages for the site.

SOURCE	RECEPTOR	PATHWAY	PROBABILITY	CONSEQUENCE
Contamination within near surface soils on site associated with any made ground and previous activities on site	End users	Ingestion of contaminated soil or dust, through skin contact or inhalation	Unlikely	Medium
		Vapours	Low likelihood	
	Near surface groundwater (Secondary Undifferentiated Aquifer)	Percolation and leaching of surface run-off	Low likelihood	Medium
	Principal Aquifer	Groundwater, percolation and leaching of surface run-off	Likely	Medium

² Rudland, DJ, Lancefield, RM and Mayell, PN (2001) *Contaminated land risk assessment. A guide to good practice. CIRIA C552*

SOURCE	RECEPTOR	PATHWAY	PROBABILITY	CONSEQUENCE
Contamination within near surface soils on site associated with any made ground and previous activities on site	Site workers	Ingestion of contaminated soil or dust, through skin contact or inhalation	Low likelihood	Mild
	Buried services	Direct contact	Low likelihood	Minor
	Adjacent sites	Groundwater, shallow perched water or drain runs	Low likelihood	Medium
	Buried concrete	Direct contact	Low likelihood	Mild

This method of risk evaluation involves classification of the magnitude of the potential consequence (severity) and probability (likelihood) of the risk. The method by which these factors are classified is detailed in the Appendix. On the basis of the consequence and probability the site can be attributed a level of risk, ranging from very low to very high and the procedure for making this assessment is shown in the Appendix, together with a description of each level of assessed risk and the actions that may be required to mitigate the risk.

On the basis of the above it is considered that there is a MODERATE / LOW RISK of there being a significant contaminant linkage at this site which would result in any requirement for any remediation work.

The risk assessment is based on the proposed use of the site and the assumed underlying ground conditions and would need to be reviewed if a more sensitive end use is proposed. Contamination may however be present as a result of the industrial history of the site and it would be prudent to carry out chemical analyses on samples of the near surface soil to assess the presence of soil contamination and to assist with waste disposal classification. Gas monitoring is also likely to be required to assess the potential risk of soil gas and determine the requirement for gas protection measures.

4.2 Development Issues

The proposed development comprises an extension to the current office building and the addition of two storeys, then the conversion of this to a residential end use. Moderate loads are expected.

The glacial till of the Lowestoft Formation would normally be considered a suitable bearing stratum for the anticipated loads. However, foundations may need to be deepened near trees, and consideration will need to be given to the risk of dissolution features in the chalk, which will have implications for the foundation design. Reinforced foundations may be required or consideration may need to be given to piling. As the proposals include the addition of loads to the existing foundations, consideration will need to be given to the ability of these foundations to accommodate the new loadings, and whether the existing foundations have been engineered to protect against the risk of dissolution features.

A ground investigation will need to be carried out to determine the ground conditions and groundwater levels, including assessing the risk of potential dissolution features.

An enquiry has been made to Welwyn Hatfield Borough Council to determine whether they have records of artificial or natural cavities within the chalk in the area. They have advised that any site-specific requirements of a ground investigation, in particular with respect to identifying any dissolution features present on site, will be considered and advised on receipt of a planning application.

5.0 CONCLUSIONS

On the basis of the findings of the research carried out there is considered to be a moderate to low risk of there being a significant contamination linkage at this site, and it is not anticipated that significant remedial works will be required, but this will need to be assessed as part of a ground investigation. Samples of the shallow soil will need to be tested for the range of potential contaminants identified by this desk study and it is possible that there will be a requirement for gas monitoring and groundwater sampling and testing.

The ground investigation should also investigate the possible presence of dissolution features and provide parameters for the design of new foundations, as well as determining the capacity of existing foundations to support any additional loading associated with the development proposals.

APPENDIX

Envirocheck Extracts

Historical Maps

Risk Assessment Description

Risk Assessment Classification

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

103458291_1_1

Customer Reference:

J16261

National Grid Reference:

524210, 212550

Slice:

A

Site Area (Ha):

0.21

Search Buffer (m):

1000

Site Details:

Studio Four
37 Broadwater Road
Welwyn Garden City
Hertfordshire
AL7 3AX

Client Details:

Mr S Branch
GEA Ltd
Widbury Barn
Widbury Hill
Ware
Herts
SG12 7QE

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	17
Hazardous Substances	23
Geological	24
Industrial Land Use	31
Sensitive Land Use	70
Data Currency	71
Data Suppliers	76
Useful Contacts	77

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Copyright Notice

© Landmark Information Group Limited 2016. The Copyright on the information and data and its format as contained in this Envirocheck® Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency/Natural Resources Wales and Natural England, and must not be reproduced in whole or in part by photocopying or any other method. The Report is supplied under Landmark's Terms and Conditions accepted by the Customer.

A copy of Landmark's Terms and Conditions can be found with the Index Map for this report. Additional copies of the Report may be obtained from Landmark, subject to Landmark's charges in force from time to time. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and /or other Data providers, whose Copyright material has been included in this Report.

Natural England Copyright Notice

Site of Special Scientific Interest, National Nature Reserve, Ramsar, Special Protection Area, Special Conservation Area, Marine Nature Reserve data (derived from Ordnance Survey 1:10000 raster) is provided by, and used with the permission of, Natural England who retain the copyright and Intellectual Property Rights for the data.

Ove Arup Copyright Notice

The Data provided in this report was obtained on Licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The information and data supplied in the product are derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Peter Brett Associates Copyright Notice

The cavity data presented has been extracted from the PBA enhanced version of the original DEFRA national cavity databases. PBA/DEFRA retain the copyright & intellectual property rights in the data. Whilst all reasonable efforts are made to check that the information contained in the cavity databases is accurate we do not warrant that the data is complete or error free. The information is based upon our own researches and those collated from a number of external sources and is continually being augmented and updated by PBA. In no event shall PBA/DEFRA or Landmark be liable for any loss or damage including, without limitation, indirect or consequential loss or damage arising from the use of this data.

Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England.

Report Version v50.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes			n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1				1
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 1		4	3	6
Integrated Pollution Prevention And Control	pg 3			7	10
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7			3	8
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 8		Yes		
Pollution Incidents to Controlled Waters	pg 8			1	4
Prosecutions Relating to Authorised Processes	pg 9				1
Registered Radioactive Substances	pg 9		17		
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 12		4		1 (*5)
Water Industry Act Referrals	pg 15				3
Groundwater Vulnerability	pg 15	Yes	n/a	n/a	n/a
Drift Deposits	pg 15	1	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 15	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 15	Yes	n/a	n/a	n/a
Source Protection Zones	pg 16	1			
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Detailed River Network Lines					n/a
Detailed River Network Offline Drainage					n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 17				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 17				3
Local Authority Landfill Coverage	pg 17	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 17				3
Potentially Infilled Land (Water)	pg 18		8	2	14
Registered Landfill Sites	pg 19		1		
Registered Waste Transfer Sites	pg 19				2
Registered Waste Treatment or Disposal Sites	pg 20		2	2	3
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 23				2
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)	pg 23				1
Planning Hazardous Substance Consents	pg 23				1
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 24	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 24	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 25				4
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
Brine Compensation Area			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities	pg 26		4	5	16
Non Coal Mining Areas of Great Britain	pg 30	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 30	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 30	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 30	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 30	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 30	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 31		30	40	200
Fuel Station Entries	pg 55			1	2
Points of Interest - Commercial Services	pg 55		15	16	56
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 62		13	11	33
Points of Interest - Public Infrastructure	pg 67			6	10
Points of Interest - Recreational and Environmental	pg 69				2
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 70	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (S)	0	2	524210 212550
1	Discharge Consents Operator: Cbx Property Type: Office/Data Proc Equip Manufacture Location: Rank Xerox Ltd, Bessemer Road, Welwyn Garden City, Hertfordshire Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CNTW.1270 Permit Version: 1 Effective Date: 30th October 1991 Issued Date: 30th October 1991 Revocation Date: 31st March 1996 Discharge Type: Miscellaneous Discharges - Mine / Groundwater As Raised Discharge Environment: Into Land Receiving Water: Chalk Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A18NW (N)	821	3	524200 213395
2	Integrated Pollution Controls Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Authority: Environment Agency, Thames Region Permit Reference: BG4844 Dated: 29th February 2000 Process Type: IPC major (substantial) variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	101	3	524073 212536
2	Integrated Pollution Controls Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3SP Authority: Environment Agency, Thames Region Permit Reference: BC6241 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	102	3	524073 212531
2	Integrated Pollution Controls Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Authority: Environment Agency, Thames Region Permit Reference: AJ9776 Dated: 14th February 1994 Process Type: IPC new application Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	106	3	524068 212536
2	Integrated Pollution Controls Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: AX5668 Dated: 17th December 1996 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Application has met the requirements for authorisation (but not yet authorised)Not Yet Authorised Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	107	3	524068 212531
3	Integrated Pollution Controls Name: British Lead Mills Ltd Location: Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Authority: Environment Agency, Thames Region Permit Reference: AW7371 Dated: 31st July 2001 Process Type: IPC minor (non-substantial) variation to previous variation Description: 2.2 A (E) Non-ferrous Metal processes within the Metal Industry Status: Revoked - Now IPPC Positional Accuracy: Automatically positioned to the address	A18SE (NE)	411	3	524463 212905

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	Integrated Pollution Controls Name: British Lead Mills Ltd Location: Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Authority: Environment Agency, Thames Region Permit Reference: BD1601 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 2.2 A (E) Non-ferrous Metal processes within the Metal Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A18SE (NE)	413	3	524458 212910
3	Integrated Pollution Controls Name: British Lead Mills Ltd Location: Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Authority: Environment Agency, Thames Region Permit Reference: AR7009 Dated: 15th September 1995 Process Type: IPC application for process that was regulated by HMIP for air releases under previous legislation Description: 2.2 A (E) Non-ferrous Metal processes within the Metal Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A18SE (NE)	413	3	524458 212910
4	Integrated Pollution Controls Name: Catomance Technologies Ltd Location: 96 Bridge Road East, WELWYN GARDEN CITY, Hertfordshire, AL7 1JW Authority: Environment Agency, Thames Region Permit Reference: AK8210 Dated: 15th March 1994 Process Type: IPC application for process that was regulated by HMIP for air releases under previous legislation Description: 4.7 A Pesticide production within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A14NW (E)	630	3	524868 212641
4	Integrated Pollution Controls Name: Catomance Ltd Location: 96 Bridge Road East, WELWYN GARDEN CITY, Hertfordshire, AL7 1JW Authority: Environment Agency, Thames Region Permit Reference: AM2883 Dated: 16th February 1994 Process Type: Application since found to be exempt from IPC Description: Not Given Status: Application since found to be exempt from IPCExempt Positional Accuracy: Automatically positioned to the address	A14NW (E)	630	3	524868 212646
4	Integrated Pollution Controls Name: Catomance Technologies Ltd Location: 96 Bridge Road East, WELWYN GARDEN CITY, Hertfordshire, AL7 1JW Authority: Environment Agency, Thames Region Permit Reference: BB2496 Dated: Not Supplied Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.7 A Pesticide production within the Chemical Industry Status: Application has met the requirements for authorisation (but not yet authorised)Not Yet Authorised Positional Accuracy: Automatically positioned to the address	A14NW (E)	630	3	524868 212646
4	Integrated Pollution Controls Name: Catomance Technologies Ltd Location: 96 Bridge Road East, WELWYN GARDEN CITY, Hertfordshire, AL7 1LQ Authority: Environment Agency, Thames Region Permit Reference: BC7108 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.7 A Pesticide production within the Chemical Industry Status: Authorisation revokedRevoked Positional Accuracy: Automatically positioned to the address	A14NW (E)	635	3	524873 212641
5	Integrated Pollution Controls Name: Aeromet International Plc Location: Watchmead, WELWYN GARDEN CITY, Hertfordshire, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: BD0443 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.3 A (F) Acid processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A19SE (NE)	955	3	525119 212939

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Integrated Pollution Controls Name: Aeromet International Plc Location: Watchmead, WELWYN GARDEN CITY, Hertfordshire, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: AP2472 Dated: 21st March 1995 Process Type: IPC new application Description: 4.3 A (F) Acid processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A19SE (NE)	957	3	525119 212944
6	Integrated Pollution Prevention And Control Name: British Lead Mills Ltd Location: Wgc Lead Recovery Process, Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: PP3138CR Original Permit Ref: BI8317ik Effective Date: 15th October 2012 Status: Effective Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 2.2 A(1) (B) (I) Activity Description: Non-Ferrous Metals; Melting With Capacity Greater Than 4T/D Lead/Cadmium Or 20T/D Others Primary Activity: Y	A18SE (NE)	413	3	524458 212910
6	Integrated Pollution Prevention And Control Name: British Lead Mills Ltd Location: Wgc Lead Recovery Process, Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: SP3034UX Original Permit Ref: BI8317ik Effective Date: 27th March 2008 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 2.2 A(1) (B) (I) Activity Description: Non-Ferrous Metals; Melting With Capacity Greater Than 4T/D Lead/Cadmium Or 20T/D Others Primary Activity: Y	A18SE (NE)	413	3	524458 212910
6	Integrated Pollution Prevention And Control Name: British Lead Mills Ltd Location: Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UB Authority: Environment Agency, Thames Region Permit Reference: SP3034UX Original Permit Ref: BI8317ik Effective Date: 27th March 2008 Status: Effective Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 2.2 A(1) (B) (I) Activity Description: Non-Ferrous Metals; Melting With Capacity Greater Than 4T/D Lead/Cadmium Or 20T/D Others Primary Activity: Y	A18SE (NE)	413	3	524458 212910
6	Integrated Pollution Prevention And Control Name: British Lead Mills Ltd Location: Wgc Lead Recovery Process, Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: BX4739IA Original Permit Ref: BI8317ik Effective Date: 23rd June 2004 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 2.2 A(1) (B) (I) Activity Description: Non-Ferrous Metals; Melting With Capacity Greater Than 4T/D Lead/Cadmium Or 20T/D Others Primary Activity: Y	A18SE (NE)	413	3	524458 212910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Integrated Pollution Prevention And Control Name: British Lead Mills Ltd Location: Wgc Lead Recovery Process, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UB Authority: Environment Agency, Thames Region Permit Reference: Bx4739ia Original Permit Ref: BL8317ik Effective Date: 23rd June 2004 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 2.2 A(1) (B) (I) Activity Description: Non-Ferrous Metals; Melting With Capacity Greater Than 4T/D Lead/Cadmium Or 20T/D Others Primary Activity: Y	A18SE (NE)	413	3	524458 212910
6	Integrated Pollution Prevention And Control Name: British Lead Mills Ltd Location: Wgc Lead Recovery Process, Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: BL8317IK Original Permit Ref: BL8317ik Effective Date: 20th December 2002 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 2.2 A(1) (D) (I) Activity Description: Non-Ferrous Metals; Producing Etc Lead And Alloys With Release To Air Primary Activity: Y	A18SE (NE)	413	3	524458 212910
6	Integrated Pollution Prevention And Control Name: British Lead Mills Ltd Location: Wgc Lead Recovery Process, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UB Authority: Environment Agency, Thames Region Permit Reference: BL8317ik Original Permit Ref: BL8317ik Effective Date: 20th December 2002 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 2.2 A(1) (D) (I) Activity Description: Non-Ferrous Metals; Producing Etc Lead And Alloys With Release To Air Primary Activity: Y	A18SE (NE)	413	3	524458 212910
7	Integrated Pollution Prevention And Control Name: Rti Advanced Forming Limited Location: Chemical Machining Of Titanium Epr/Vp3132fv, R T I Advanced Forming Ltd, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: RP3432RX Original Permit Ref: Vp3132fv Effective Date: 18th March 2016 Status: Effective Application Type: Variation App. Sub Type: Standard Positional Accuracy: Located by supplier to within 10m Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A14NE (E)	972	3	525190 212780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Integrated Pollution Prevention And Control Name: Rti Advanced Forming Ltd Location: Chemical Machining Of Titanium Epr/Vp3132fv, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: WP3833CX Original Permit Ref: Vp3132fv Effective Date: 25th January 2012 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y	A14NE (E)	972	3	525190 212780
7	Integrated Pollution Prevention And Control Name: Aeromet Advanced Forming Limited Location: Chemical Machining Of Titanium Epr/Vp3132fv, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: VP3132FV Original Permit Ref: Vp3132fv Effective Date: 23rd November 2011 Status: Superseded By Variation Application Type: Transfer App. Sub Type: Whole limited change in management Positional Accuracy: Located by supplier to within 10m Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A14NE (E)	972	3	525190 212780
7	Integrated Pollution Prevention And Control Name: Aeromet International Plc Location: Chemical Machining Of Titanium, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: QP3339XQ Original Permit Ref: Np3333bh Effective Date: 1st June 2008 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y	A14NE (E)	977	3	525194 212785
7	Integrated Pollution Prevention And Control Name: Aeromet International Plc Location: Chemical Machining Of Titanium, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: QP3339XQ Original Permit Ref: Np3333bh Effective Date: 1st June 2008 Status: Effective Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y	A14NE (E)	977	3	525194 212785

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Integrated Pollution Prevention And Control Name: Aeromet International Plc Location: Chemical Machining Of Titanium, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: VP3738LJ Original Permit Ref: Np3333bh Effective Date: 1st September 2006 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A14NE (E)	977	3	525194 212785
7	Integrated Pollution Prevention And Control Name: Aeromet International Plc Location: Watchmead, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: VP3738LJ Original Permit Ref: Np3333bh Effective Date: 1st September 2006 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A14NE (E)	977	3	525194 212785
7	Integrated Pollution Prevention And Control Name: Aeromet International Plc Location: Chemical Machining Of Titanium, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: NP3333BH Original Permit Ref: Np3333bh Effective Date: 24th August 2005 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y	A14NE (E)	977	3	525194 212785
7	Integrated Pollution Prevention And Control Name: Aeromet International Plc Location: Chemical Machining Of Titanium, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: VP3132FV Original Permit Ref: Np3333bh Effective Date: Not Supplied Status: Valid Application Type: Transfer App. Sub Type: Whole limited change in management Positional Accuracy: Automatically positioned to the address Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A14NE (E)	977	3	525194 212785

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	Integrated Pollution Prevention And Control Name: Aeromet International Plc Location: Chemical Machining Of Titanium, Aeromet International Plc, Watchmead,,, Welwyn Garden City, Hertfordshire, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: Np3333bh Original Permit Ref: Np3333bh Effective Date: 24th August 2005 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 4.2 A(1) (H) Activity Description: Inorganic Chemicals; Using Hydrogen Fluoride/Chloride Etc If Release To Air (Other Than Chemicals Manufacture Etc) Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A19SE (E)	991	3	525177 212891
9	Local Authority Pollution Prevention and Controls Name: Johnson The Cleaners Location: 43 Fretherne Road, Welwyn Garden City, AL8 6ny Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: Not Supplied Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	457	4	523820 212849
10	Local Authority Pollution Prevention and Controls Name: Eastbridge Service Station Location: Bridge Road East, Welwyn Garden City, Herts, AL7 1LE Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: LN000311 Dated: 1st December 1998 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	476	4	524513 212950
10	Local Authority Pollution Prevention and Controls Name: Mark Tempest Autocentre Location: Unit 1 Garden Court, Welwyn Garden City, AL7 1bh Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: Not Supplied Dated: 1st January 2012 Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	491	4	524516 212966
11	Local Authority Pollution Prevention and Controls Name: Welwyn Dry Cleaners Location: 37 Wigmores North, Welwyn Garden City, AL10 9rq Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: Not Supplied Dated: 1st November 2011 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	628	4	523766 213041
12	Local Authority Pollution Prevention and Controls Name: Line Side Engineering Location: 5-7 Woodfield Road, WELWYN GARDEN CITY, Hertfordshire, AL7 1JQ Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the address or location	A14NE (E)	737	4	524950 212770

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	Local Authority Pollution Prevention and Controls Name: Mill Lane Accident Repair Centre Location: Woodfield Road, WELWYN GARDEN CITY, Hertfordshire, AL7 1 Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: LN000268 Dated: 1st November 1997 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Application exempt from APC Positional Accuracy: Manually positioned to the address or location	A14NE (E)	787	4	524997 212786
13	Local Authority Pollution Prevention and Controls Name: Gilbertson & Page Ltd Location: 45-55 Brownfields, Welwyn Garden City, Hertfordshire, AL7 1LF Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: LN920017 Dated: 1st August 1993 Process Type: Local Authority Air Pollution Control Description: PG6/24 Pet food manufacturing Status: Authorised Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	854	4	524896 213109
14	Local Authority Pollution Prevention and Controls Name: Redhead Demolition Co Ltd Location: 2 Blenheim Court, Brownfields, Welwyn Garden City, Herts, AL7 1AN Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: LN050002 Dated: 1st April 2005 Process Type: Local Authority Pollution Prevention and Control Description: PG3/16 Mobile screening and crushing processes Status: Permitted Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	884	4	524864 213187
15	Local Authority Pollution Prevention and Controls Name: Sika (Uk) Ltd Location: Watchmead, Welwyn Garden City, Hertfordshire, AL7 1BQ Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: LN940033 Dated: 1st January 1995 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1 Blending, packing, loading and use of bulk cement Status: Permitted Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	968	4	525112 212986
16	Local Authority Pollution Prevention and Controls Name: Squire Ferneaux Location: 36 Brownfields, WELWYN GARDEN CITY, Hertfordshire, AL7 1AN Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: LN930002 Dated: 1st September 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Application exempt from APC Positional Accuracy: Manually positioned to the address or location	A19NE (NE)	981	4	524906 213281
17	Local Authority Pollution Prevention and Controls Name: Brooks & Stratton Location: Burrowfields, Welwyn Garden City, Hertfordshire, AL7 4SN Authority: Welwyn Hatfield District Council, Environmental Health Department Permit Reference: LN000145 Dated: 1st March 1996 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Application exempt from APC Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SW)	991	4	523759 211645
	Nearest Surface Water Feature	A13SW (SW)	73	-	524133 212485
18	Pollution Incidents to Controlled Waters Property Type: Not Given Location: WELWYN GARDEN CITY Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 13th September 1993 Incident Reference: NE930622 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	494	3	524600 212900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	Pollution Incidents to Controlled Waters Property Type: Not Given Location: WELWYN GARDEN CITY Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Confirmed As A Pollution Incident Incident Date: 5th January 1991 Incident Reference: NE910004 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	600	3	524500 213100
20	Pollution Incidents to Controlled Waters Property Type: Not Given Location: WELWYN GARDEN CITY Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 22nd January 1991 Incident Reference: NE910027 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	724	3	524600 211900
21	Pollution Incidents to Controlled Waters Property Type: Not Given Location: WELWYN GARDEN CITY Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 19th April 1989 Incident Reference: NE890176 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A19NW (NE)	824	3	524600 213300
22	Pollution Incidents to Controlled Waters Property Type: Not Given Location: WELWYN GARDEN CITY Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Confirmed As A Pollution Incident Incident Date: 7th April 1992 Incident Reference: NE920175 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	977	3	524500 213500
23	Prosecutions Relating to Authorised Processes Location: Burrowfield Industrial Estate, WELWYN GARDEN CITY, Hertfordshire, AL7 Prosecution Text: EA Data 27/07/1999 (Ref 129/99) (Case 3 of 3), Depositing of sewage waste into the foul sewer without a Waste Management Licence or discharge consent from Thames Water PLC on 10th November 1998. Prosecution Act: EPA90 s33(1a) Hearing Date: 28th June 1999 Verdict: Guilty Fine: 200 Costs: 232 Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	971	3	523779 211658
24	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road ,, Welwyn Garden City, Hertfordshire, AL7 3ay Authority: Environment Agency, Thames Region Permit Reference: Bq2081 Dated: 14th February 2002 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	4	3	524170 212548

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road ,,, Welwyn Garden City, Hertfordshire, AL7 3ay Authority: Environment Agency, Thames Region Permit Reference: Bm9149 Dated: 14th February 2002 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Minor variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	9	3	524167 212541
24	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: Bs5924 Dated: 19th September 2002 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	36	3	524158 212512
24	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: Bs5908 Dated: 19th September 2002 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Initial variation to an authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	36	3	524158 212512
25	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: BG2507 Dated: 20th April 2000 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	35	3	524168 212605
25	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: BG2558 Dated: 20th April 2000 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	40	3	524168 212610
26	Registered Radioactive Substances Name: Roche Products Ltd Location: P O Box 8, 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: AE5209 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Unknown	A13SW (SW)	83	3	524105 212500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: BA4841 Dated: 26th March 1998 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A13SW (W)	84	3	524100 212505
26	Registered Radioactive Substances Name: Roche Products Ltd Location: P O Box 8, 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: AA5762 Dated: 29th June 1992 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Unknown	A13SW (SW)	86	3	524105 212495
26	Registered Radioactive Substances Name: Roche Products Ltd Location: P O Box 8, 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: AE5217 Dated: 31st March 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Unknown	A13SW (SW)	87	3	524100 212500
26	Registered Radioactive Substances Name: Roche Products Ltd Location: 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Authority: Environment Agency, Thames Region Permit Reference: AU2123 Dated: 9th January 1996 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Unknown	A13SW (W)	89	3	524095 212505
26	Registered Radioactive Substances Name: Roche Products Ltd Location: P O Box 8, 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: AM8628 Dated: 18th July 1994 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Unknown	A13SW (SW)	90	3	524100 212495
26	Registered Radioactive Substances Name: Roche Products Ltd Location: P O Box 8, 40 Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AY Authority: Environment Agency, Thames Region Permit Reference: BB8729 Dated: 28th October 1998 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Unknown	A13SW (SW)	93	3	524100 212490

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	Registered Radioactive Substances Name: Antisoma Research Ltd Location: Biopark Hertfordshire, Broadwater Road., WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Authority: Environment Agency, Thames Region Permit Reference: CE3230 Dated: 10th May 2010 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	3	523946 212497
27	Registered Radioactive Substances Name: Heptares Therapeutics Ltd Location: Biopark Hertfordshire, Broadwater Road., WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Authority: Environment Agency, Thames Region Permit Reference: CD6683 Dated: 3rd June 2009 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	3	523946 212497
27	Registered Radioactive Substances Name: Heptares Therapeutics Ltd Location: Biopark Hertfordshire, Broadwater Road., WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Authority: Environment Agency, Thames Region Permit Reference: CD1550 Dated: 24th November 2008 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	3	523946 212497
27	Registered Radioactive Substances Name: Heptares Therapeutics Ltd Location: Biopark Hertfordshire, Broadwater Road., WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Authority: Environment Agency, Thames Region Permit Reference: CD1568 Dated: 24th November 2008 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	3	523946 212497
28	Water Abstractions Operator: George Wimpey Uk Limited Licence Number: 29/38/02/0007 Permit Version: 102 Location: Broadwater Road, Welwyn Garden City - 2 Boreholes Grouped Authority: Environment Agency, Thames Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Broadwater Road, Welwyn Garden City, Herts Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 7th February 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (W)	180	3	524000 212500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	Water Abstractions Operator: Roche Products Limited Licence Number: 29/38/02/0007 Permit Version: 101 Location: Broadwater Road, Welwyn Garden City - 2 Boreholes Grouped Authority: Environment Agency, Thames Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Broadwater Road, Welwyn Garden City, Herts Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 26th August 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (W)	180	3	524000 212500
28	Water Abstractions Operator: Roche Products Limited Licence Number: 29/38/02/0007 Permit Version: 100 Location: Broadwater Road, Welwyn Garden City - 2 Boreholes Grouped Authority: Environment Agency, Thames Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 1364 Yearly Rate (m3): 318220 Details: Broadwater Road, Welwyn Garden City, Herts Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th August 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (W)	180	3	524000 212500
28	Water Abstractions Operator: Roche Products Ltd Licence Number: 29/38/02/0001 Permit Version: Not Supplied Location: Broadwater Road - No 2 Borehole Authority: Environment Agency, Thames Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): 340950 Details: Chalk (Undifferentiated); Licence Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (W)	181	3	524000 212495
29	Water Abstractions Operator: Rank Xerox Ltd Licence Number: 29/38/02/0074 Permit Version: Not Supplied Location: Bessemer Road Authority: Environment Agency, Thames Region Abstraction: Industrial Processing (Miscellaneous) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 2991 Yearly Rate (m3): 0 Details: Chalk (Undifferentiated); Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NW (N)	826	3	524200 213400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Welwyn Garden City Golf Club Ltd Licence Number: 29/38/01/0107 Permit Version: 1 Location: Welwyn Garden City Gc - Borehole Authority: Environment Agency, Thames Region Abstraction: Golf Courses: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Welwyn Garden City Golf Club, Hertfordshire Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st January 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NW (NW)	1697	3	522720 213430
	Water Abstractions Operator: Welwyn Garden City Golf Club Ltd Licence Number: 29/38/01/0101 Permit Version: 1 Location: Welwyn Garden City Gc Borehole Authority: Environment Agency, Thames Region Abstraction: Golf Courses: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Welwyn Garden City Golf Club Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st December 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NW (NW)	1697	3	522720 213430
	Water Abstractions Operator: Welwyn Garden City Golf Club Ltd Licence Number: 29/38/01/0093 Permit Version: 100 Location: Welwyn Garden City Gc Borehole Authority: Environment Agency, Thames Region Abstraction: Golf Courses: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 118 Yearly Rate (m3): 9895 Details: Welwyn Garden City Golf Club Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 16th October 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16NW (NW)	1697	3	522720 213430
	Water Abstractions Operator: Mrs L J Noad Licence Number: 29/38/01/0048 Permit Version: Not Supplied Location: Ascots Farm, HATFIELD Authority: Environment Agency, Thames Region Abstraction: Agriculture (General) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 5 Yearly Rate (m3): 1659 Details: Chalk (Undifferentiated). Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1911	3	524800 210700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Finesse Leisure Partnership Licence Number: 29/38/01/0065 Permit Version: 101 Location: River Lee-Tributary-Watercress Beds, Lemsford Nature Reserve Authority: Environment Agency, Thames Region Abstraction: Amenity: Lake And Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: North Lake At Stanborough Park, Wgc Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 19th January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1979	3	522310 211880
30	Water Industry Act Referrals Name: Catomance Technologies Ltd Location: CATOMANCE TECHNOLOGIES LTD, 96 BRIDGE ROAD EAST, 96 BRIDGE ROAD EAST, WELWYN GARDEN CITY, HERTFORDSHIRE, AL7 1JW Authority: Environment Agency, Thames Region Permit Reference: AB3323 Dated: 8th October 1991 Process Type: Permissions or amendments to discharge under the Water Industry Act 1991 Description: Processes which result in the discharge of Special Category effluents under The Trade Effluents (Prescribed Processes and Substances) Regulations Status: Application cancelled Positional Accuracy: Automatically positioned to the address	A14NW (E)	643	3	524878 212665
31	Water Industry Act Referrals Name: Aeromet International Plc Location: AEROMET INTERNATIONAL PLC, WATCHMEAD, WATCHMEAD, WELWYN GARDEN CITY, HERTFORDSHIRE, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: AQ4551 Dated: 27th February 1995 Process Type: Permissions or amendments to discharge under the Water Industry Act 1991 Description: Processes which result in the discharge of Special Category effluents under The Trade Effluents (Prescribed Processes and Substances) Regulations Status: Application cancelled Positional Accuracy: Manually positioned to the road within the address or location	A19SE (E)	966	3	525136 212928
32	Water Industry Act Referrals Name: Aeromet International Plc Location: AEROMET INTERNATIONAL PLC, WATCHMEAD, WATCHMEAD, WELWYN GARDEN CITY, HERTFORDSHIRE, AL7 1LT Authority: Environment Agency, Thames Region Permit Reference: CC6980 Dated: 29th May 2008 Process Type: Permissions or amendments to discharge under the Water Industry Act 1991 Description: Processes which result in the discharge of Special Category effluents under The Trade Effluents (Prescribed Processes and Substances) Regulations Status: Application cancelled Positional Accuracy: Manually positioned to the address or location	A14NE (E)	977	3	525194 212785
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 39 West London Scale: 1:100,000	A13NE (S)	0	3	524210 212550
	Drift Deposits Drift Deposit: Low permeability drift deposits occurring at the surface and overlying Major and Minor Aquifers are head, clay-with-flints, brickearth, peat, river terrace deposits and marine and estuarine alluvium Map Sheet: Sheet 39 West London Scale: 1:100,000	A13NE (S)	0	3	524210 212550
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13NE (S)	0	2	524210 212550
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13NE (S)	0	2	524210 212550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	Source Protection Zones 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.	A13NE (S)	0	3	524210 212550
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
	Detailed River Network Lines None				
	Detailed River Network Offline Drainage None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	Historical Landfill Sites Licence Holder: Hertfordshire County Council Location: Welwyn Garden City, Hertfordshire Name: Chequersfield Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD13054 First Input Date: 31st December 1965 Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 1900/0125 BGS Ref: Not Supplied Other Ref: 0322, Ex/0001	A8SW (S)	968	3	523934 211605
35	Licensed Waste Management Facilities (Locations) Licence Number: 102412 Location: Bridgefields, Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1RX Operator Name: W G C Metals Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Vehicle depollution facility Licence Status: Issued Issued: 21st February 2011 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	753	3	524550 213245
36	Licensed Waste Management Facilities (Locations) Licence Number: 80190 Location: Tewin Rd Depot, Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1BD Operator Name: Welwyn Hatfield District Council Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Special Waste Transfer Stations Licence Status: Modified Issued: 20th May 1999 Last Modified: 1st September 2015 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	936	3	524756 213340
37	Licensed Waste Management Facilities (Locations) Licence Number: 80279 Location: 30 Burrowfields, Welwyn Garden City, Hertfordshire, AL7 4SR Operator Name: John L Dicks & R M Dicks Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Surrendered Issued: 30th August 1996 Last Modified: 18th June 2008 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 10th August 2009 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	969	3	523700 211700
	Local Authority Landfill Coverage Name: Hertfordshire County Council - Has supplied landfill data		0	5	524210 212550
	Local Authority Landfill Coverage Name: Welwyn Hatfield Council - Has no landfill data to supply		0	4	524210 212550
38	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A7NE (SW)	625	-	523786 212055

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A7NE (SW)	749	-	523649 212012
40	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A19SE (NE)	902	-	524981 213077
41	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1939	A13NE (E)	89	-	524333 212565
42	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A13SE (E)	101	-	524342 212533
43	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A13NW (NW)	131	-	524084 212658
44	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1939	A13SE (E)	161	-	524394 212495
45	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1925	A13SW (S)	190	-	524207 212338
46	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13SE (SE)	192	-	524310 212348
47	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1925	A13SW (S)	208	-	524189 212323
48	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A13NE (NE)	219	-	524410 212700
49	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1939	A13SW (SW)	266	-	523944 212412
50	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A12NE (NW)	453	-	523812 212830
51	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A19SW (NE)	553	-	524622 212961
52	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A18SW (N)	644	-	524160 213217
53	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1925	A14SE (E)	699	-	524914 212358
54	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A17SE (NW)	722	-	523858 213217
55	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A9NW (SE)	737	-	524830 212090
56	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1960	A8SW (S)	745	-	524088 211795
57	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A8SW (SW)	752	-	523896 211846
58	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1925	A14SE (E)	781	-	524998 212355

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A9SW (SE)	830	-	524653 211808
60	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A17SE (NW)	835	-	523539 213102
61	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A8SE (S)	887	-	524399 211653
62	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1925	A8SE (S)	938	-	524432 211608
63	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A12NW (W)	963	-	523211 212568
64	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A23SE (N)	991	-	524230 213564
65	Registered Landfill Sites Licence Holder: Polycell Products Ltd Licence Reference: 79/078 Site Location: 30 Broadwater Road, Welwyn Garden City, Hertfordshire Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Landfill - Soak away Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Status: Site exempt from licenceExempt Dated: 19th June 1979 Preceded By: Not Given Licence: Superseded By: 79/078 Licence: Positional Accuracy: Positioned by the supplier Boundary Accuracy: Good Authorised Waste: Aqueous Effluent Waste Industrial Effluent Treatment Sludge	A13NW (N)	134	3	524190 212709
66	Registered Waste Transfer Sites Licence Holder: Welwyn Hatfield District Council Licence Reference: WML80190 Site Location: Tewin Road Depot, Tewin Road, WELWYN GARDEN CITY, Hertfordshire, AL7 1BD Operator Location: Council Offices, The Campus, WELWYN GARDEN CITY, Hertfordshire, AL8 6AE Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 20th May 1999 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Bonded Asbestos Household, Commercial & Industrial Waste (As In S75 Epa 1990) - Comprising Lwra Cat Bii General Scrap Metal Waste Lwra Cat. Bi General Non-Putrescible Waste Maximum Storage In Licence Maximum Waste Permitted By Licence Prohibited Waste: Leather Processing Waste Liquid Wastes Metal Swarf/Dusts/Particulates Poisonous, Noxious, Polluting Wastes Pulverised Fuel Ash/Vanadium Contaminated Ash Sludge Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs) Not Otherwise Specified Toxic Metal Slags Waste Not Otherwise Specified	A19NW (NE)	889	3	524699 213321

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	Registered Waste Transfer Sites Licence Holder: J L & R M Dicks t/a Honeywagon Co Licence Reference: T/NE/96/378 Site Location: 30 Burrowfields, WELWYN GARDEN CITY, Hertfordshire, AL7 4SR Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer - with treatment Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: May not be working (licence suspended)Suspended Dated: 30th August 1996 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Storage In Licence Max.Waste Permitted By Licence Oil/Water Mixtures And Similar Interceptor Wastes Prohibited Waste: Waste N.O.S.	A7SE (SW)	992	3	523745 211650
68	Registered Waste Treatment or Disposal Sites Licence Holder: Polycell Products Ltd Licence Reference: 79/078 Site Location: 30 Broadwater Road, Welwyn Garden City, Hertfordshire Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Storage Max Input Rate: Undefined Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Site exempt from licenceExempt Dated: 19th June 1979 Preceded By: 79/078 Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Aqueous Effluent Waste	A13NW (N)	77	3	524200 212650
69	Registered Waste Treatment or Disposal Sites Licence Holder: Roche Products Ltd Licence Reference: 86/203 Site Location: 40 Broadwater Road, Welwyn Garden City, Hertfordshire Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Storage - Drummed storage Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1986 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Solvents - Chlorinated & Unchlor. A Solvents - Chlorinated & Unchlor. B Prohibited Waste: Liable To Cause Environmental Hazards Poisonous, Noxious And Polluting N.O.S	A13SW (SW)	87	3	524100 212500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	Registered Waste Treatment or Disposal Sites Licence Holder: British Lead Mills Licence Reference: 92/302 Site Location: Peartree Lane, WELWYN GARDEN CITY, Hertfordshire, AL7 3UB Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Scrapyard Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st January 1993 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Scrap Lead Prohibited Waste: Waste N.O.S.	A18SE (NE)	400	3	524450 212900
71	Registered Waste Treatment or Disposal Sites Licence Holder: Rank Xerox Ltd Licence Reference: 82/134 Site Location: Bessemer Road, WELWYN GARDEN CITY, Hertfordshire, AL7 1HE Operator Location: PO Box 17 Bessemer Road, WELWYN GARDEN CITY, Hertfordshire, AL7 1HE Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer - with treatment Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Site exempt from licenceExempt Dated: 24th May 1984 Preceded By: 78/042 Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Acids Alkalies Flammable Solvents Industrial Effluent Treatment Sludge Metasilicate Solution Oil/Water Mixtures Toxic/Poisonous Wastes Waste Solvents Water (Contaminated) Prohibited Waste: Polluting Wastes	A18SE (N)	478	3	524293 213040
72	Registered Waste Treatment or Disposal Sites Licence Holder: Catomance Ltd Licence Reference: 79/076 Site Location: 88/96 Bridge Road East, Welwyn Garden City, Hertfordshire, AL7 1jw Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Storage Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 22nd October 1982 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Aqueous Effluent Waste Dilute Aqueous Alum.Chloride Max.Stor Toxic/Poisonous Wastes	A14NW (E)	565	3	524802 212649

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	Registered Waste Treatment or Disposal Sites Licence Holder: Rank Xerox Ltd Licence Reference: 78/042 Site Location: Bessemer Road, WELWYN GARDEN CITY, Hertfordshire, AL7 1HE Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Treatment - Chemical Max Input Rate: Undefined Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 8th December 1978 Preceded By: Not Given Licence: Superseded By: 82/134 Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Acids, Alkalies, Controlled Wastes N.O.S, Cutting.Oil/Water, Inflammable Solvents, Non Flammable Solvents, Toxic/Poisonous Wastes, Waste Solvents Environment Agency Waste N.O.S must give specific authorisation for this waste to be acceptedWaste requires prior approval	A18NE (N)	697	3	524278 213266
74	Registered Waste Treatment or Disposal Sites Licence Holder: Contract Gully Cleansing Licence Reference: 78/044 Site Location: Brownfields, WELWYN GARDEN CITY, Hertfordshire, AL7 1AY Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Storage Max Input Rate: Undefined Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 10th February 1978 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Alkalies, All Cyanides, Arsenates & Arsenites, Asbestos, Biocides, Chemical Wastes, Dyestuffs Waste, Ink Waste, Laboratory Chemicals, Metal Bearing Wastes, Oil/Water Mixtures, Organic Solvents, Paint Waste \$, Pharmaceutical Production Wastes, Polymeric Wastes, Soluble Complex Cyanides, Sulphides, Waste Oil	A19NE (NE)	948	3	524891 213251

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	Control of Major Accident Hazards Sites (COMAH) Name: National Grid Gas Plc Location: Welwyn Garden City Holder Station, Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1BD Reference: Not Supplied Type: Lower Tier Status: Active Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	691	6	524534 213184
76	Control of Major Accident Hazards Sites (COMAH) Name: Transco Plc Location: Welwyn Garden City Holder Station, Tewin Road, WELWYN GARDEN CITY, Hertfordshire, AL7 1BD Reference: 1023635 Type: Lower Tier Status: Active Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	698	6	524595 213160
77	Notification of Installations Handling Hazardous Substances (NIHHS) Name: Transco Location: Welwyn Garden City Holder Station (M20), Tewin Road, WELWYN GARDEN CITY, Hertfordshire Status: Not Active Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	662	6	524535 213152
78	Planning Hazardous Substance Consents Name: Bg Transco Plc Location: Welwyn Garden Holder Station, Tewin Road, Welwyn Garden City, Herts, AL7 Authority: Welwyn Hatfield District Council Application Ref: N6/2000/0752/Hs Hazardous: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Substance: liquefied or not Maximum Quantity: 0 Application date: 31st May 2000 Decision: New application granted conditionally Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	635	7	524528 213125

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: White Chalk Subgroup	A13NE (S)	0	2	524210 212550
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (S)	0	2	524210 212550
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (N)	55	2	524221 212624
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	256	2	524500 212550
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	285	2	524500 212683
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	351	2	523845 212424
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (N)	426	2	524210 213000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 25 - 35 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A18SE (NE)	512	2	524500 213000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A14NE (E)	756	2	525000 212550
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 25 - 35 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A14NE (E)	789	2	525000 212783
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 35 - 45 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A19SE (NE)	876	2	525000 213000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A17NE (NW)	922	2	523747 213385
79	BGS Recorded Mineral Sites Site Name: Twentieth Mile Brick Works Location: , Twentieth Mile, Woodhall, Welwyn Garden City, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166125 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Anglian Geology: Lowestoft Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	674	2	523862 211947

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	BGS Recorded Mineral Sites Site Name: Twentieth Mile Brick Works Location: , Twentieth Mile, Woodhall, Welwyn Garden City, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166124 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Anglian Geology: Lowestoft Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	763	2	523756 211907
81	BGS Recorded Mineral Sites Site Name: Twentieth Mile Gravel Workings Location: , Twentieth Mile, Woodhall, Welwyn Garden City, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166126 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Pleistocene Geology: Kesgrave Catchment Subgroup Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	856	2	523775 211787
82	BGS Recorded Mineral Sites Site Name: Attimore Hall Chalk Pit Location: , Welwyn Garden City, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 168869 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	936	2	525006 213101
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Natural Cavities Easting: 524210 Northing: 212590 Distance: 22 Quadrant Reference: A13 Quadrant Reference: NE Bearing Ref: N Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A13NE (N)	22	8	524210 212590
	Natural Cavities Easting: 524280 Northing: 212600 Distance: 56 Quadrant Reference: A13 Quadrant Reference: NE Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A13NE (NE)	56	8	524280 212600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Natural Cavities Easting: 524240 Northing: 212660 Distance: 98 Quadrant Reference: A13 Quadrant Reference: NE Bearing Ref: N Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel, Glacial Till and morainic drift Detail:	A13NE (N)	98	8	524240 212660
	Natural Cavities Easting: 524260 Northing: 212750 Distance: 190 Quadrant Reference: A13 Quadrant Reference: NE Bearing Ref: N Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A13NE (N)	190	8	524260 212750
	Natural Cavities Easting: 524300 Northing: 212850 Distance: 297 Quadrant Reference: A13 Quadrant Reference: NE Bearing Ref: N Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A13NE (N)	297	8	524300 212850
	Natural Cavities Easting: 523900 Northing: 212800 Distance: 364 Quadrant Reference: A13 Quadrant Reference: NW Bearing Ref: NW Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A13NW (NW)	364	8	523900 212800
	Natural Cavities Easting: 523840 Northing: 212770 Distance: 397 Quadrant Reference: A12 Quadrant Reference: NE Bearing Ref: NW Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A12NE (NW)	397	8	523840 212770
	Natural Cavities Easting: 523800 Northing: 212700 Distance: 403 Quadrant Reference: A12 Quadrant Reference: NE Bearing Ref: W Cavity Type: Solution Pipe Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A12NE (W)	403	8	523800 212700
	Natural Cavities Easting: 524320 Northing: 212960 Distance: 408 Quadrant Reference: A18 Quadrant Reference: SE Bearing Ref: N Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A18SE (N)	408	8	524320 212960

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Natural Cavities Easting: 523910 Northing: 213100 Distance: 594 Quadrant Reference: A18 Quadrant Reference: SW Bearing Ref: NW Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A18SW (NW)	594	8	523910 213100
	Natural Cavities Easting: 523890 Northing: 213120 Distance: 621 Quadrant Reference: A18 Quadrant Reference: SW Bearing Ref: NW Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A18SW (NW)	621	8	523890 213120
	Natural Cavities Easting: 524810 Northing: 212900 Distance: 662 Quadrant Reference: A19 Quadrant Reference: SW Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19SW (NE)	662	8	524810 212900
	Natural Cavities Easting: 524830 Northing: 212960 Distance: 711 Quadrant Reference: A19 Quadrant Reference: SW Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19SW (NE)	711	8	524830 212960
	Natural Cavities Easting: 524630 Northing: 213160 Distance: 716 Quadrant Reference: A19 Quadrant Reference: SW Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19SW (NE)	716	8	524630 213160
	Natural Cavities Easting: 524860 Northing: 212950 Distance: 731 Quadrant Reference: A19 Quadrant Reference: SW Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19SW (NE)	731	8	524860 212950
	Natural Cavities Easting: 523830 Northing: 213260 Distance: 772 Quadrant Reference: A17 Quadrant Reference: NE Bearing Ref: NW Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A17NE (NW)	772	8	523830 213260

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Natural Cavities Easting: 524970 Northing: 212840 Distance: 779 Quadrant Reference: A14 Quadrant Reference: NE Bearing Ref: E Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A14NE (E)	779	8	524970 212840
	Natural Cavities Easting: 524900 Northing: 212980 Distance: 780 Quadrant Reference: A19 Quadrant Reference: SE Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19SE (NE)	780	8	524900 212980
	Natural Cavities Easting: 524920 Northing: 212950 Distance: 782 Quadrant Reference: A19 Quadrant Reference: SE Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19SE (NE)	782	8	524920 212950
	Natural Cavities Easting: 524600 Northing: 211770 Distance: 839 Quadrant Reference: A9 Quadrant Reference: SW Bearing Ref: SE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift, River terrace deposits Detail:	A9SW (SE)	839	8	524600 211770
	Natural Cavities Easting: 524660 Northing: 213300 Distance: 852 Quadrant Reference: A19 Quadrant Reference: NW Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19NW (NE)	852	8	524660 213300
	Natural Cavities Easting: 524890 Northing: 213120 Distance: 857 Quadrant Reference: A19 Quadrant Reference: SE Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Sand & Gravel Detail:	A19SE (NE)	857	8	524890 213120
	Natural Cavities Easting: 524770 Northing: 211780 Distance: 917 Quadrant Reference: A9 Quadrant Reference: SW Bearing Ref: SE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial Till and morainic drift Detail:	A9SW (SE)	917	8	524770 211780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Natural Cavities Easting: 525100 Northing: 212940 Distance: 938 Quadrant Reference: A19 Quadrant Reference: SE Bearing Ref: NE Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial sand Detail:	A19SE (NE)	938	8	525100 212940
	Natural Cavities Easting: 525200 Northing: 212820 Distance: 991 Quadrant Reference: A14 Quadrant Reference: NE Bearing Ref: E Cavity Type: Sinkhole x 1 Solid Geology Detail: Chalk Group Superficial Geology: Glacial sand Detail:	A14NE (E)	991	8	525200 212820
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	55	2	524221 212624
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	55	2	524221 212624
	Radon Potential - Radon Affected Areas Affected Area: 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	A13NE (S)	0	2	524210 212550
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (S)	0	2	524210 212550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	Contemporary Trade Directory Entries Name: Roche Products Ltd Location: 40 Broadwater Rd, Welwyn Garden City, Hertfordshire, AL7 3AY Classification: Pharmaceutical Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (W)	75	-	524110 212588
84	Contemporary Trade Directory Entries Name: Stafford Miller Ltd Location: Broadwater House, 45, Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3SP Classification: Pharmaceutical Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	90	-	524184 212447
85	Contemporary Trade Directory Entries Name: Bounty Location: 29, Broadwater Road, Welwyn Garden City, AL7 3BQ Classification: Distribution Services Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (N)	116	-	524243 212678
86	Contemporary Trade Directory Entries Name: Jj Engineering (Uk) Ltd Location: Unit 19/20, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Precision Engineers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	150	-	524331 212679
86	Contemporary Trade Directory Entries Name: Presswork Location: Unit 23-24, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	172	-	524338 212702
86	Contemporary Trade Directory Entries Name: Prompt Fire Protection Location: Unit 25, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Firefighting Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	175	-	524348 212698
86	Contemporary Trade Directory Entries Name: A C Precision Location: Unit 26, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	177	-	524355 212696
86	Contemporary Trade Directory Entries Name: G V A Engineering Co Ltd Location: Unit 1, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	192	-	524392 212680
86	Contemporary Trade Directory Entries Name: Peartree Welding Centre Location: Unit 2, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	196	-	524398 212678
86	Contemporary Trade Directory Entries Name: Drake Electronics Ltd Location: 26-28, Hyde Way, Welwyn Garden City, Hertfordshire, AL7 3UQ Classification: Radio Communication Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	221	-	524367 212740
87	Contemporary Trade Directory Entries Name: Ridge Engineering Co Ltd Location: 23a Broadwater Rd, Welwyn Garden City, Hertfordshire, AL7 3AU Classification: Electrical Engineers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	153	-	524298 212700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	Contemporary Trade Directory Entries Name: Super Tyres Motorists Centre Location: 23a, Broadwater Road, Welwyn Garden City, AL7 3BQ Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	154	-	524298 212701
87	Contemporary Trade Directory Entries Name: Supertyres Motorists Centre Location: Newton House, 23a, Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3BQ Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	154	-	524298 212701
88	Contemporary Trade Directory Entries Name: E C Motors Location: Broadwater Rd, Welwyn Garden City, Hertfordshire, AL7 3BQ Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A13NE (N)	168	-	524225 212738
89	Contemporary Trade Directory Entries Name: Pod Drinks Plc Location: 21a, Broadwater Road, Welwyn Garden City, AL7 3BQ Classification: Vending Machine Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	170	-	524261 212730
89	Contemporary Trade Directory Entries Name: Super Tyres Motorist Centre Location: 17, Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3BQ Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	208	-	524272 212766
89	Contemporary Trade Directory Entries Name: Supertyres Mot Ltd Location: 17, Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3BQ Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	208	-	524272 212766
89	Contemporary Trade Directory Entries Name: Moorlands Motor Company Location: 17 Broadwater Rd, Welwyn Garden City, Hertfordshire, AL7 3BQ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A13NE (N)	209	-	524236 212777
89	Contemporary Trade Directory Entries Name: Supertyres Location: 13-15 Broadwater Rd, Welwyn Garden City, Hertfordshire, AL7 3BQ Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (N)	251	-	524280 212808
90	Contemporary Trade Directory Entries Name: Jack O'Neill Location: Unit 3, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	199	-	524405 212675
90	Contemporary Trade Directory Entries Name: Aces Tyres Location: Unit 6, Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Classification: Tyre Repairs & Retreading Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	211	-	524425 212666
90	Contemporary Trade Directory Entries Name: A1 Services Location: Unit 6, Peartree Farm, Peartree Lane, Welwyn Garden City, Hertfordshire, AL7 3UW Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	212	-	524425 212666

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	Contemporary Trade Directory Entries Name: Lemsford Metal Products 1982 Ltd Location: 24, Hyde Way, Welwyn Garden City, Hertfordshire, AL7 3UQ Classification: Sheet Metal Work Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	229	-	524322 212773
91	Contemporary Trade Directory Entries Name: Cleamax Engineering Ltd Location: 24, Hyde Way, Welwyn Garden City, Hertfordshire, AL7 3UQ Classification: Machinery - Industrial & Commercial Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	229	-	524322 212773
91	Contemporary Trade Directory Entries Name: F R E S C H Location: 26-28, Hyde Way, Welwyn Garden City, AL7 3UQ Classification: Recycling Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	247	-	524370 212770
92	Contemporary Trade Directory Entries Name: Biopark Hertfordshire Location: Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX Classification: Laboratories Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	-	523946 212497
92	Contemporary Trade Directory Entries Name: Biopark Location: Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX Classification: Laboratories Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	-	523946 212497
92	Contemporary Trade Directory Entries Name: Temag Pharma Ltd Location: Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX Classification: Pharmaceutical Manufacturers & Distributors Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	-	523946 212497
92	Contemporary Trade Directory Entries Name: C N Bio Innovations Location: Bio-Park, Broadwater Road, WELWYN GARDEN CITY, Hertfordshire, AL7 3AX Classification: Scientific Apparatus & Instruments - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (W)	233	-	523946 212497
93	Contemporary Trade Directory Entries Name: Happy House Cleaners Location: 80, Broadwater Crescent, Welwyn Garden City, Hertfordshire, AL7 3TU Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	235	-	523994 212396
94	Contemporary Trade Directory Entries Name: Tecmed Ltd Location: 32a Hyde Way, Welwyn Garden City, Hertfordshire, AL7 3AW Classification: Medical Instruments - Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	250	-	524442 212710
94	Contemporary Trade Directory Entries Name: British Premium Meats Location: 32 Hyde Way, Welwyn Garden City, Hertfordshire, AL7 3UQ Classification: Meat - Wholesale Status: Active Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	272	-	524444 212741
95	Contemporary Trade Directory Entries Name: A1m Car Services Ltd Location: 29, Hyde Way, Welwyn Garden City, Hertfordshire, AL7 3UQ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	309	-	524410 212817

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
181	Contemporary Trade Directory Entries Name: Acorn French Polishing Location: 69, Handside Lane, WELWYN GARDEN CITY, Hertfordshire, AL8 6SH Classification: French Polishing Status: Active Positional Accuracy: Automatically positioned to the address	A12NW (W)	991	-	523235 212864
181	Contemporary Trade Directory Entries Name: Acorn French Polishing Location: 69, Handside Lane, Welwyn Garden City, Hertfordshire, AL8 6SH Classification: Paint & Varnish Stripping Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	991	-	523235 212864
182	Contemporary Trade Directory Entries Name: Vw Groups Location: 201, Knella Road, Welwyn Garden City, Hertfordshire, AL7 3NT Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (E)	996	-	525239 212618
183	Fuel Station Entries Name: Mrh Eastbridge Location: Bridge Road East, Welwyn Garden City, Hertfordshire, AL7 1LE Brand: ESSO Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	478	-	524514 212951
184	Fuel Station Entries Name: Central Garage Location: Church Road, WELWYN GARDEN CITY, Hertfordshire, AL8 6PW Brand: OBSOLETE Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A12NE (NW)	611	-	523659 212883
185	Fuel Station Entries Name: Shell Welwyn Garden City Location: Stanborough Road, Welwyn Garden City, Hertfordshire, AL8 6XA Brand: Shell Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	850	-	523499 212030
186	Points of Interest - Commercial Services Name: Bounty Location: 29 Broadwater Road, Welwyn Garden City, AL7 3BQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NE (N)	116	9	524243 212678
187	Points of Interest - Commercial Services Name: Adams Autocare Location: Unit 10, 11, Broad Ct, Broadwater Rd, Welwyn Garden City, Hertfordshire, AL7 3BL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	146	9	524322 212680
187	Points of Interest - Commercial Services Name: Price's Location: Unit 15 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13NE (NE)	163	9	524365 212667
187	Points of Interest - Commercial Services Name: Peartree Clutch & Engine Centre Ltd Location: Unit 1 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	192	9	524392 212680
187	Points of Interest - Commercial Services Name: Peartree Engine & Clutch Centre Location: Unit 1 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	192	9	524392 212680

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
187	Points of Interest - Commercial Services Name: Peartree Welding Centre Location: Unit 2 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	196	9	524398 212678
187	Points of Interest - Commercial Services Name: Peartree Welding Centre Location: Unit 2 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	196	9	524398 212678
187	Points of Interest - Commercial Services Name: Luk Motors Group Location: Unit 3 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	199	9	524405 212675
187	Points of Interest - Commercial Services Name: Aces Tyres Location: Unit 6 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	212	9	524425 212666
187	Points of Interest - Commercial Services Name: A1 Services Location: Unit 6 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	212	9	524425 212666
187	Points of Interest - Commercial Services Name: A1 Services Location: Unit 6 Peartree Farm, Peartree Lane, Welwyn Garden City, AL7 3UW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	212	9	524425 212666
187	Points of Interest - Commercial Services Name: F R E S C H Location: 26-28 Hyde Way, Welwyn Garden City, AL7 3UQ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A13NE (NE)	221	9	524367 212740
188	Points of Interest - Commercial Services Name: Lemsford Metal Products (1982) Ltd Location: 24 Hyde Way, Welwyn Garden City, AL7 3UQ Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A13NE (NE)	229	9	524322 212773
188	Points of Interest - Commercial Services Name: Lemsford Metal Products 1982 Ltd Location: 24 Hyde Way, Welwyn Garden City, AL7 3UQ Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A13NE (NE)	229	9	524322 212773
188	Points of Interest - Commercial Services Name: Lemsford Metal Products 1982 Ltd Location: 24 Hyde Way, Welwyn Garden City, AL7 3UQ Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A13NE (NE)	229	9	524322 212773
188	Points of Interest - Commercial Services Name: The M O T Centre Ltd Location: 13-15 Broadwater Rd, Welwyn Garden City, Hertfordshire, AL7 3BQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (N)	251	9	524280 212808
188	Points of Interest - Commercial Services Name: M O T Centre Ltd Location: 13-15 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3BQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (N)	252	9	524280 212809

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	Points of Interest - Commercial Services Name: Wings of Welwyn Location: 5 Southfield, Welwyn Garden City, AL7 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	972	9	523878 211618
205	Points of Interest - Commercial Services Name: Dadoo Motors Location: 6 Southfield, Welwyn Garden City, AL7 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	982	9	523878 211608
205	Points of Interest - Commercial Services Name: B L Autos & Sons Ltd Location: 6 Southfield, Welwyn Garden City, AL7 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	982	9	523878 211608
205	Points of Interest - Commercial Services Name: Dadoo Motors Location: 6 Southfield, Welwyn Garden City, AL7 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	982	9	523878 211608
205	Points of Interest - Commercial Services Name: Metal Fx Ltd Location: 7 Southfield, Welwyn Garden City, Hertfordshire, AL7 4ST Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A8SW (S)	997	9	523876 211593
205	Points of Interest - Commercial Services Name: Metal Fx Ltd Location: 7 Southfield, Welwyn Garden City, AL7 4ST Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A8SW (S)	997	9	523876 211593
206	Points of Interest - Commercial Services Name: Central Services & Distribution Location: 40 Brownfields, Welwyn Garden City, AL7 1AX Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19NW (NE)	936	9	524855 213266
206	Points of Interest - Commercial Services Name: Central Services & Distribution Ltd Location: 40 Brownfields, Welwyn Garden City, AL7 1AX Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19NW (NE)	936	9	524855 213266
206	Points of Interest - Commercial Services Name: Saabtech Welwyn Location: 36 Brownfields, Welwyn Garden City, AL7 1AN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19NE (NE)	973	9	524888 213286
207	Points of Interest - Commercial Services Name: VW Groups Location: 201 Knella Road, Welwyn Garden City, AL7 3NT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15NW (E)	996	9	525239 212618
207	Points of Interest - Commercial Services Name: V W Groups Location: 201 Knella Road, Welwyn Garden City, AL7 3NT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15NW (E)	996	9	525239 212618
208	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (W)	68	9	524106 212552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
208	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	81	9	524113 212493
208	Points of Interest - Manufacturing and Production Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	84	9	524184 212453
209	Points of Interest - Manufacturing and Production Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	136	9	524120 212694
209	Points of Interest - Manufacturing and Production Name: Tank Location: AL7 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	204	9	524091 212755
209	Points of Interest - Manufacturing and Production Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	207	9	524130 212774
210	Points of Interest - Manufacturing and Production Name: Tanks Location: AL7 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	183	9	523994 212509
210	Points of Interest - Manufacturing and Production Name: Tank Location: AL7 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	187	9	523995 212490
210	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (W)	217	9	523957 212557
210	Points of Interest - Manufacturing and Production Name: Works Location: AL7 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (W)	221	9	523953 212557
210	Points of Interest - Manufacturing and Production Name: Works Location: AL7 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A13SW (W)	222	9	523955 212510
210	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	224	9	523959 212483
211	Points of Interest - Manufacturing and Production Name: Tank Location: AL7 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	196	9	523991 212475




Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
241	Nitrate Vulnerable Zones Name: Not Supplied Description: Surface Water Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	A13NE (S)	0	12	524210 212550

Contact	Name and Address	Contact Details
2	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
3	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
4	Welwyn Hatfield District Council - Environmental Health Department Council Offices, Campus East, Welwyn Garden City, Hertfordshire, AL8 6AE	Telephone: 01707 357000 Fax: 01707 375490 Website: www.welhat.gov.uk
5	Hertfordshire County Council - Spatial Planning and Economy Unit County Hall, Hertford, Hertfordshire, SG13 8DN	Telephone: 01992 556266 Fax: 01992 556015 Email: spatialplanning@hertfordshire.gov.uk Website: www.hertsdirect.org
6	Health and Safety Executive 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
7	Welwyn Hatfield District Council Council Offices, Campus East, Welwyn Garden City, Hertfordshire, AL8 6AE	Telephone: 01707 357000 Fax: 01707 375490 Website: www.welhat.gov.uk
8	Peter Brett Associates Caversham Bridge House, Waterman Place, Reading, Berkshire, RG1 8DN	Telephone: 0118 950 0761 Fax: 0118 959 7498 Email: reading@pba.co.uk Website: www.pba.co.uk
9	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
10	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
11	East Hertfordshire District Council Wallfields, Pegs Lane, Hertford, Hertfordshire, SG13 8EQ	Telephone: 01279 655261 Fax: 01992 552280 Website: www.eastherts.gov.uk
12	Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	Telephone: 0113 2613333 Fax: 0113 230 0879
13	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk




Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Flandrian - Flandrian
	LOFT	Lowestoft Formation	Diamicton	Anglian - Anglian
	KGCA	Kesgrave Catchment Subgroup	Sand and Gravel	Pleistocene - Pleistocene

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Eocene - Eocene
	LMBE	Lambeth Group	Clay, Silt and Sand	Paleocene - Paleocene
	LESE	Lewes Nodular Chalk Formation and Seaford Chalk Formation (Undifferentiated)	Chalk	Santonian - Turonian



Geology 1:50,000 Maps

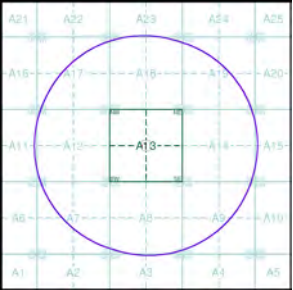
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
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

Geology 1:50,000 Maps - Slice A



Order Details:

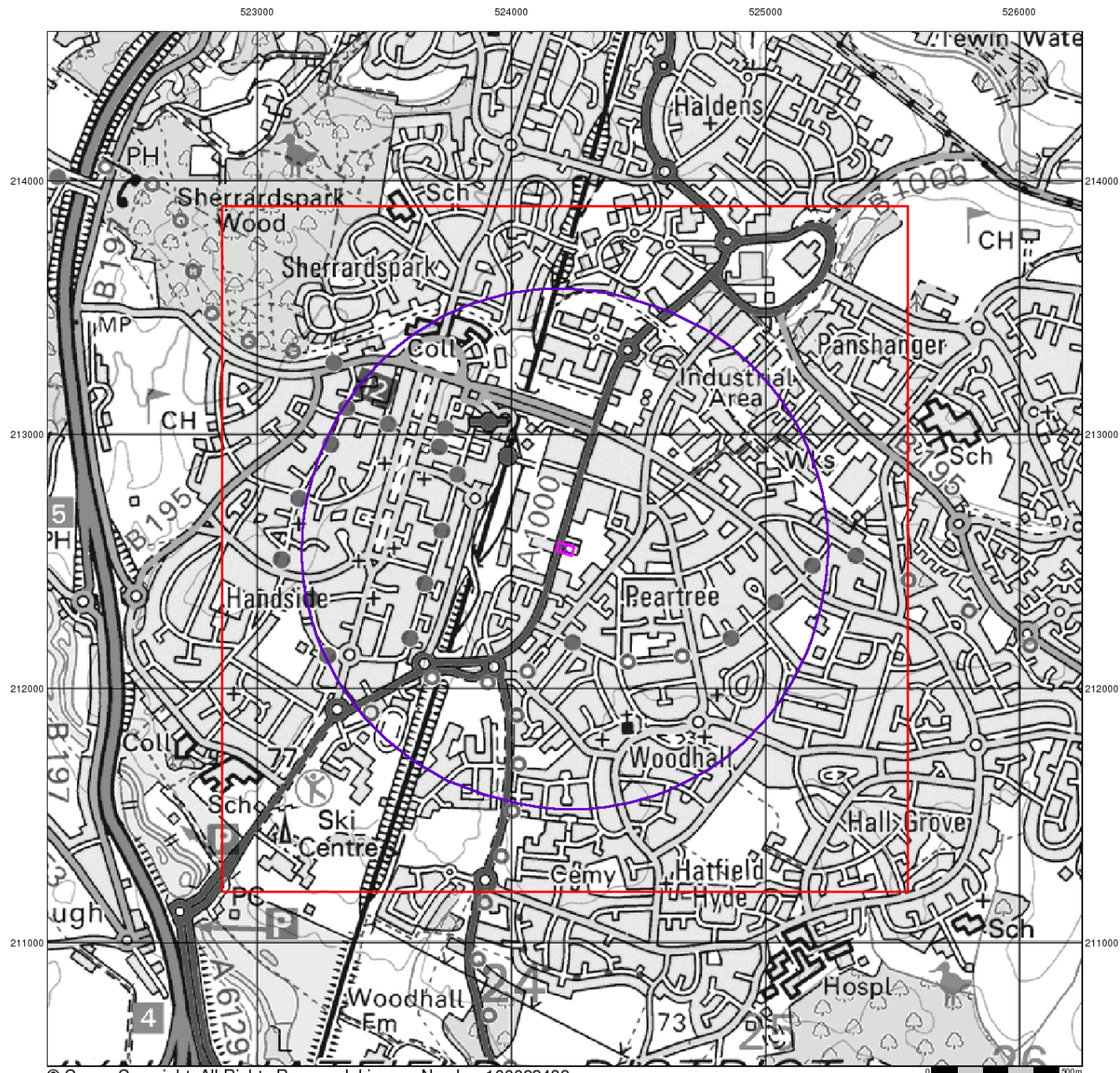
Order Number:	103458291_1_1
Customer Reference:	J16261
National Grid Reference:	524210, 212550
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

Site Details:

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

Artificial Ground and Landslip

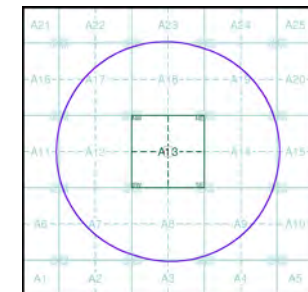
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A

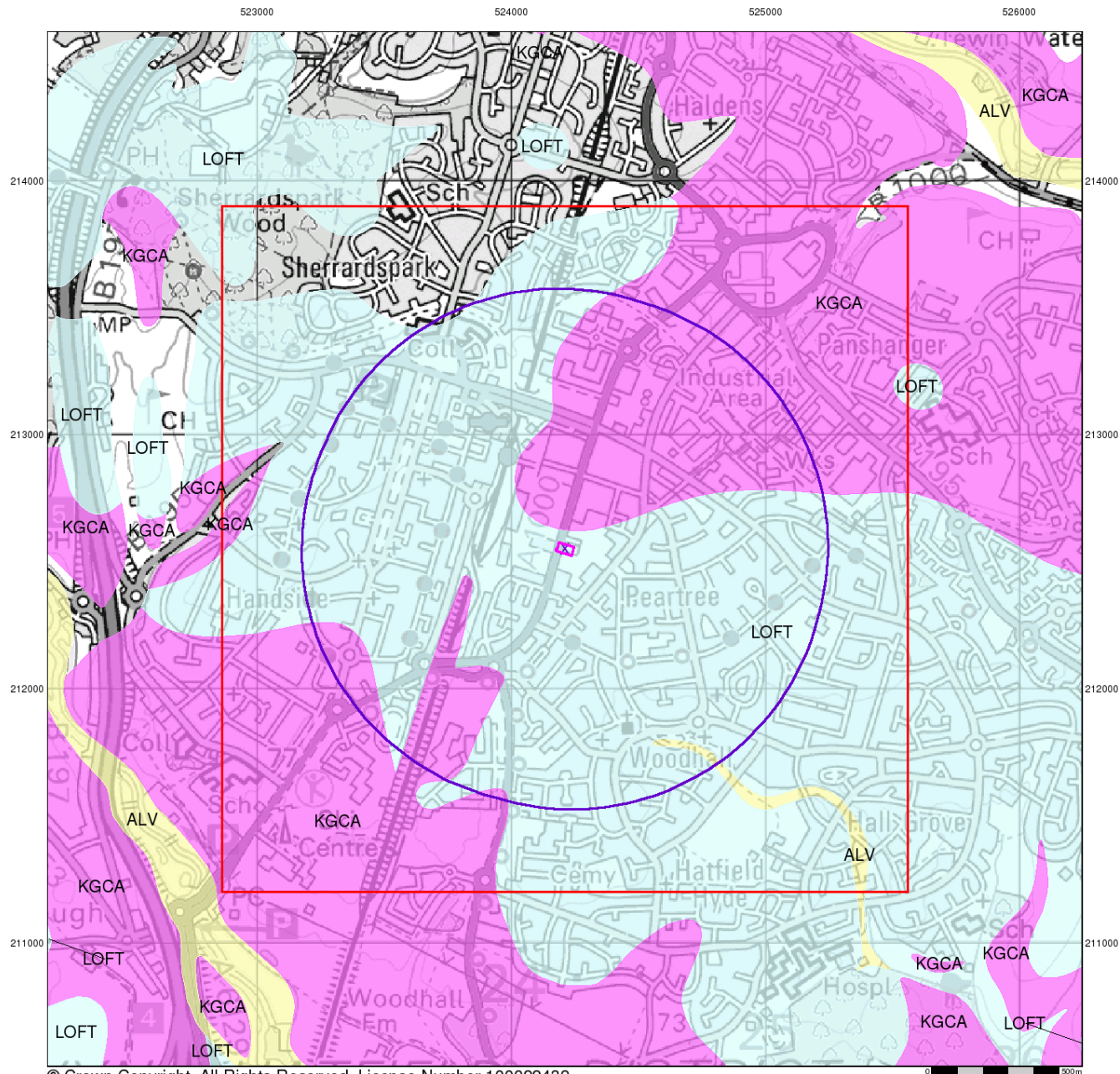


Order Details:

Order Number: 103458291_1_1
 Customer Reference: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details:

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

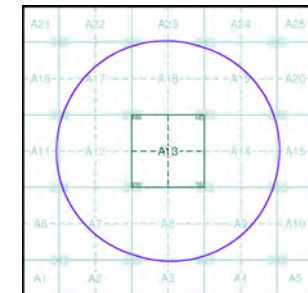
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A

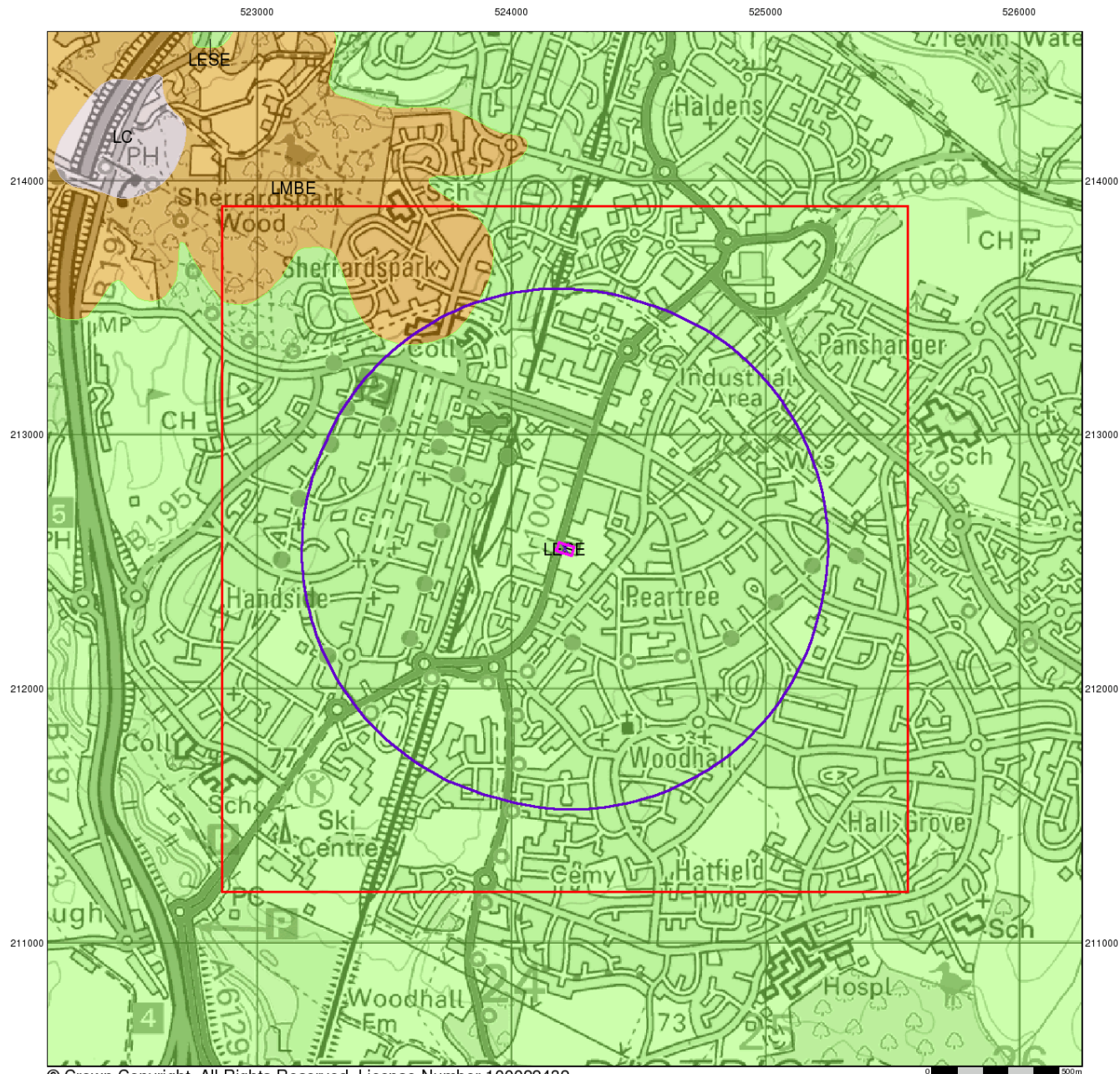


Order Details:

Order Number: 103458291_1_1
 Customer Reference: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details:

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

Bedrock and Faults

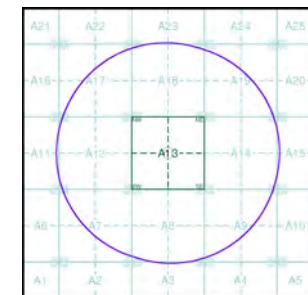
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A

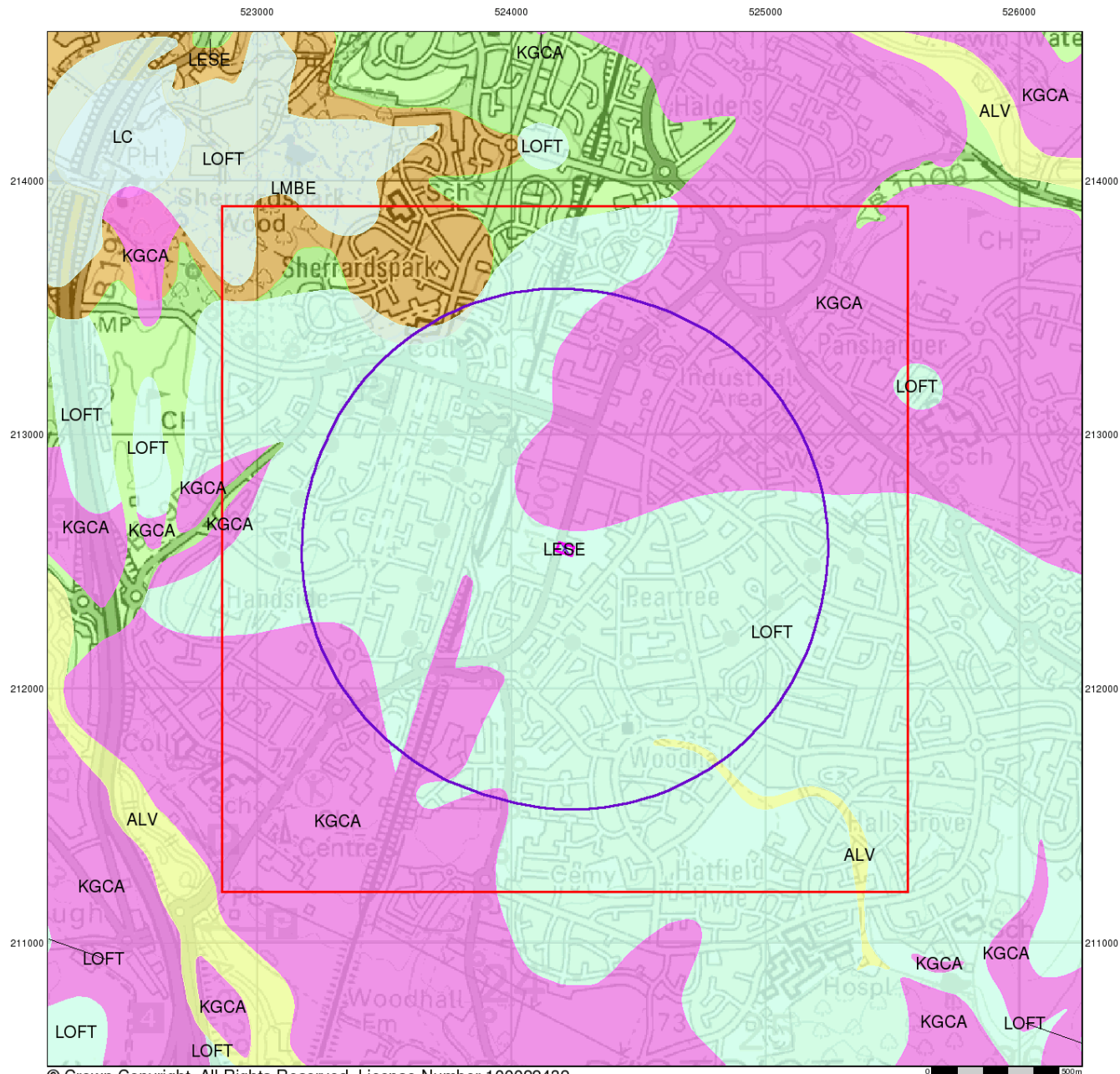


Order Details:

Order Number: 103458291_1_1
 Customer Reference: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details:

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

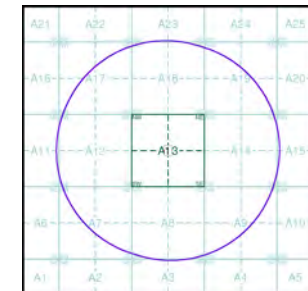
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A

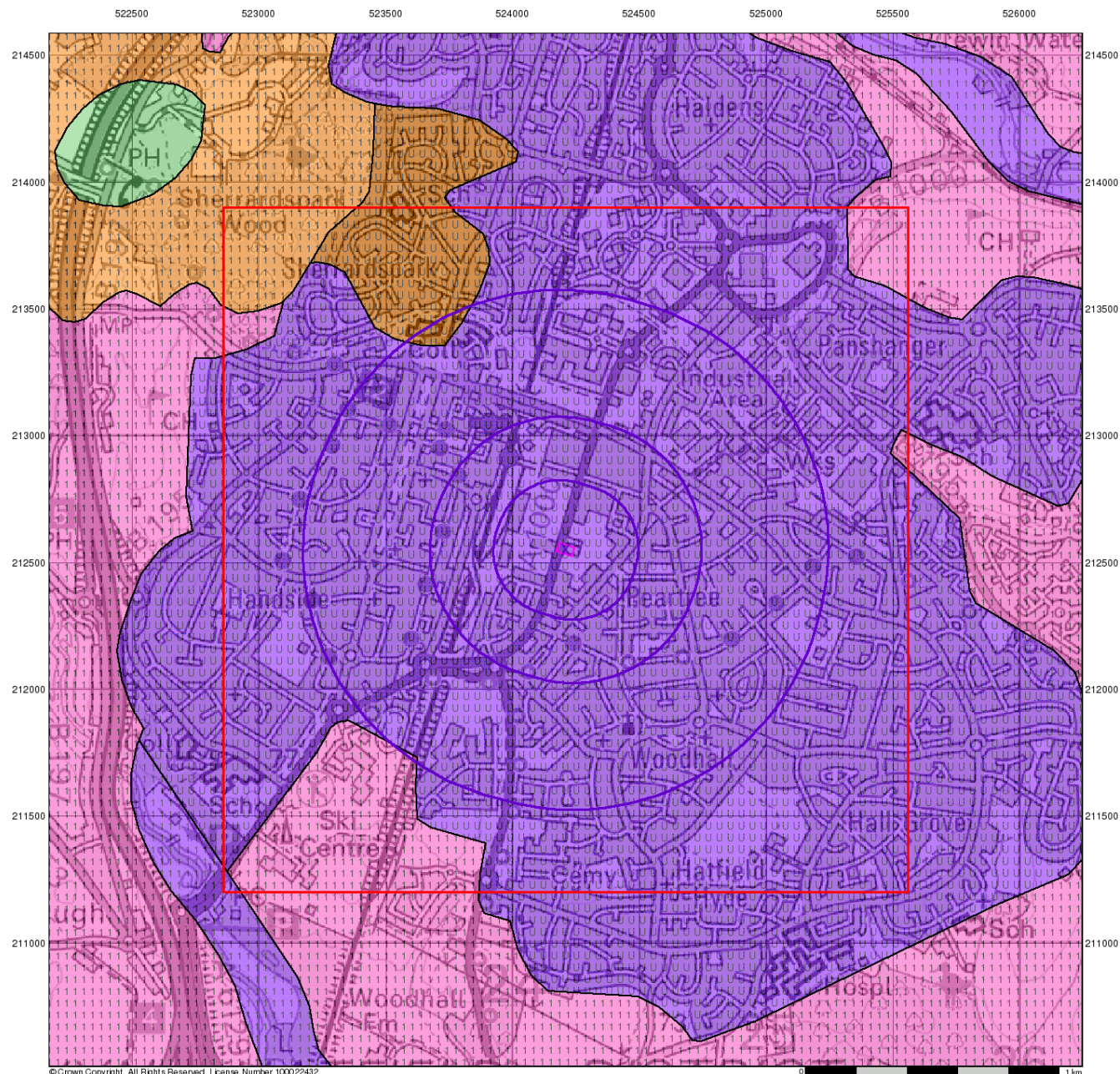


Order Details:

Order Number: 103458291_1_1
Customer Reference: J16261
National Grid Reference: 524210, 212550
Slice: A
Site Area (Ha): 0.21
Search Buffer (m): 1000

Site Details:

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

0 1 km



Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

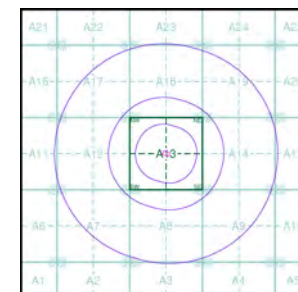
Geological Classes

- Major Aquifer (Highly Permeable)
- Minor Aquifer (Variably Permeable)
- Non Aquifer (Negligibly Permeable)
- Water or Sea
- Drift Deposit

Soil Classes

- High (H) 1, 2, 3, U
- Intermediate (I) 1, 2
- Low
- High (H) 1, 2, 3, U
- Intermediate (I) 1, 2
- Low

Site Sensitivity Context Map - Slice A



Order Details

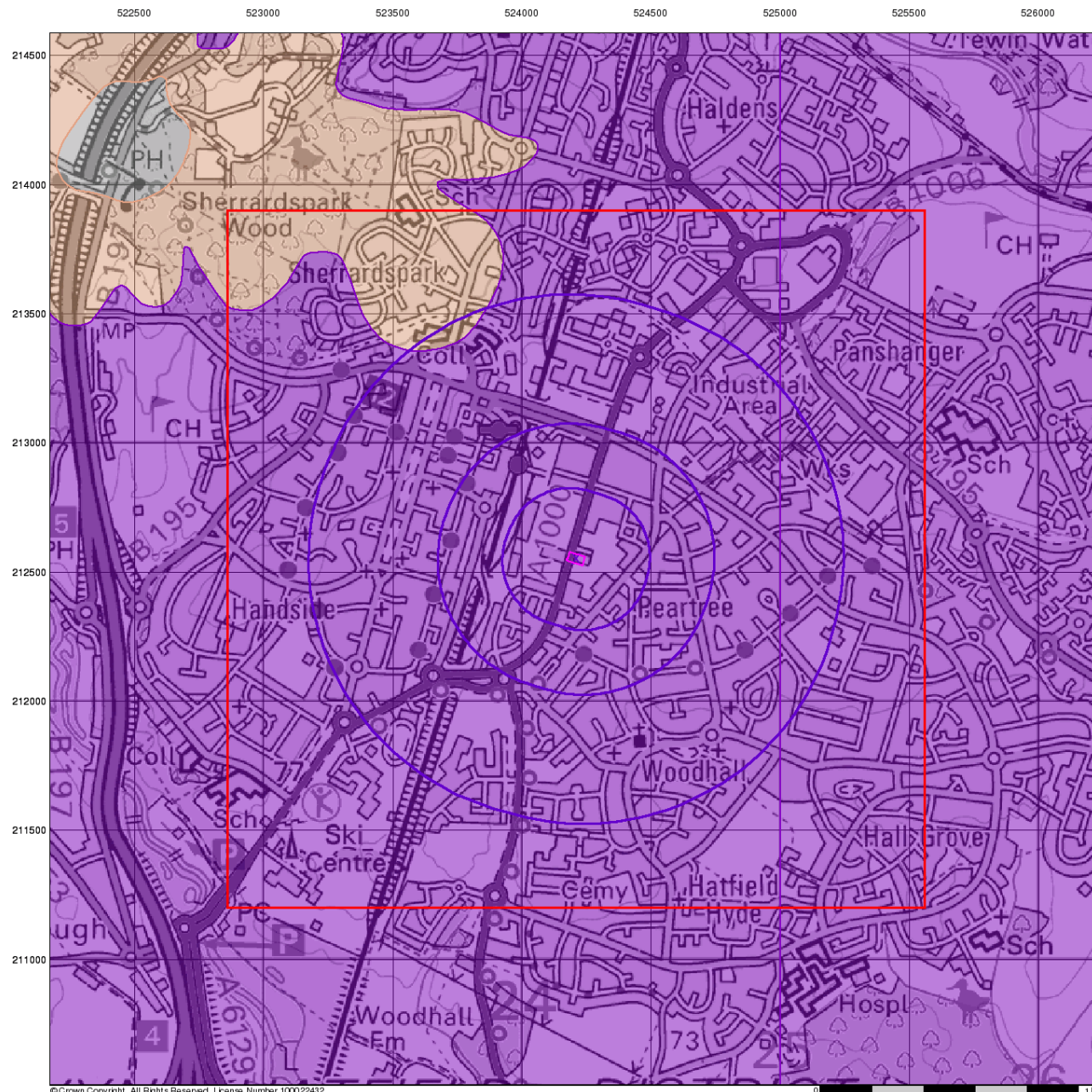
Order Number: 103458291_1_1
 Customer Ref: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

Bedrock Aquifer Designation

General

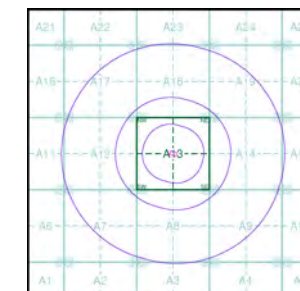
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

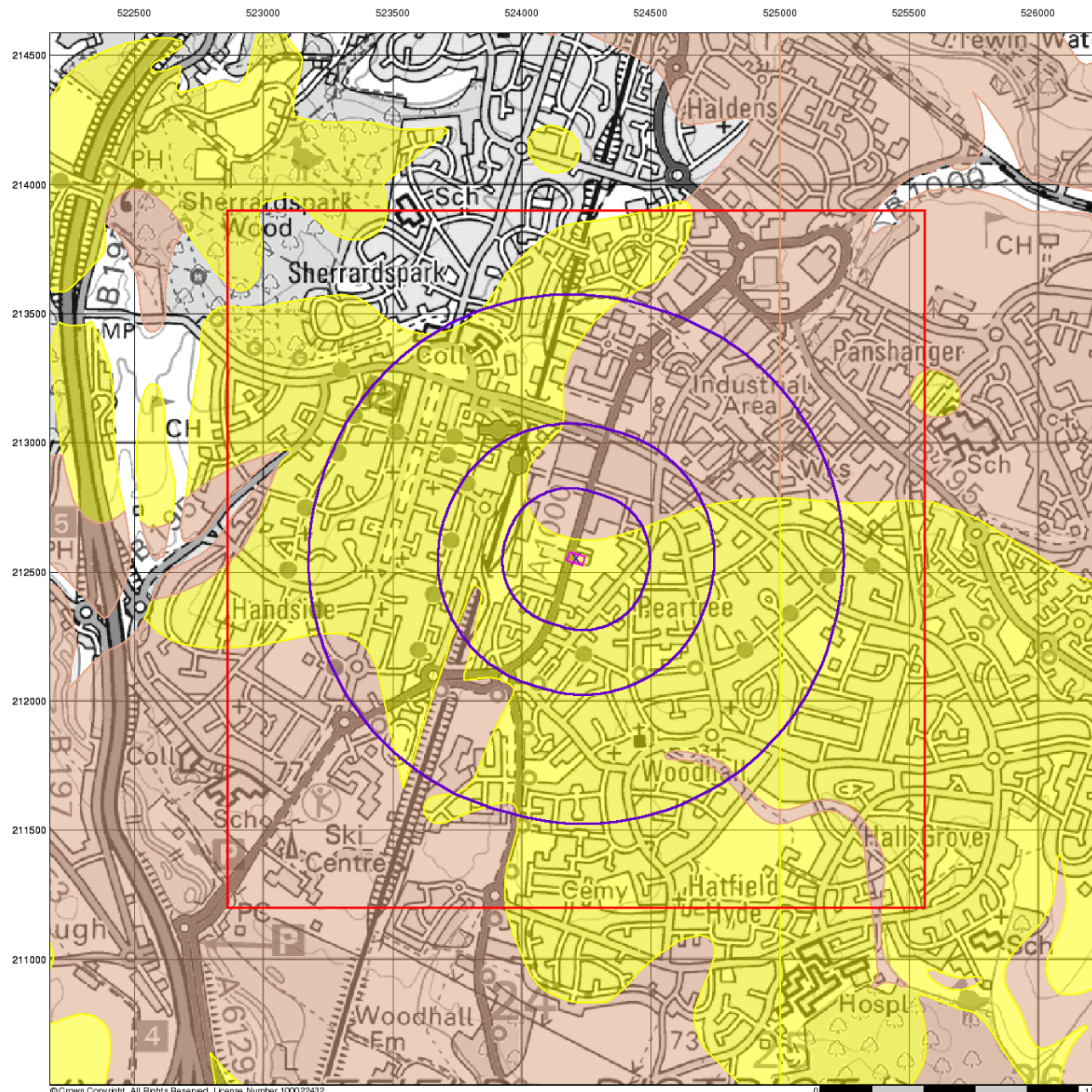


Order Details

Order Number: 103458291_1_1
 Customer Ref: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

Superficial Aquifer Designation

General

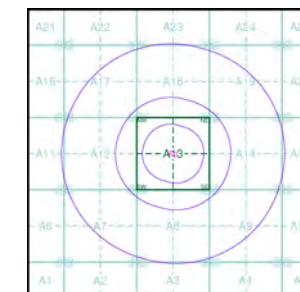
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

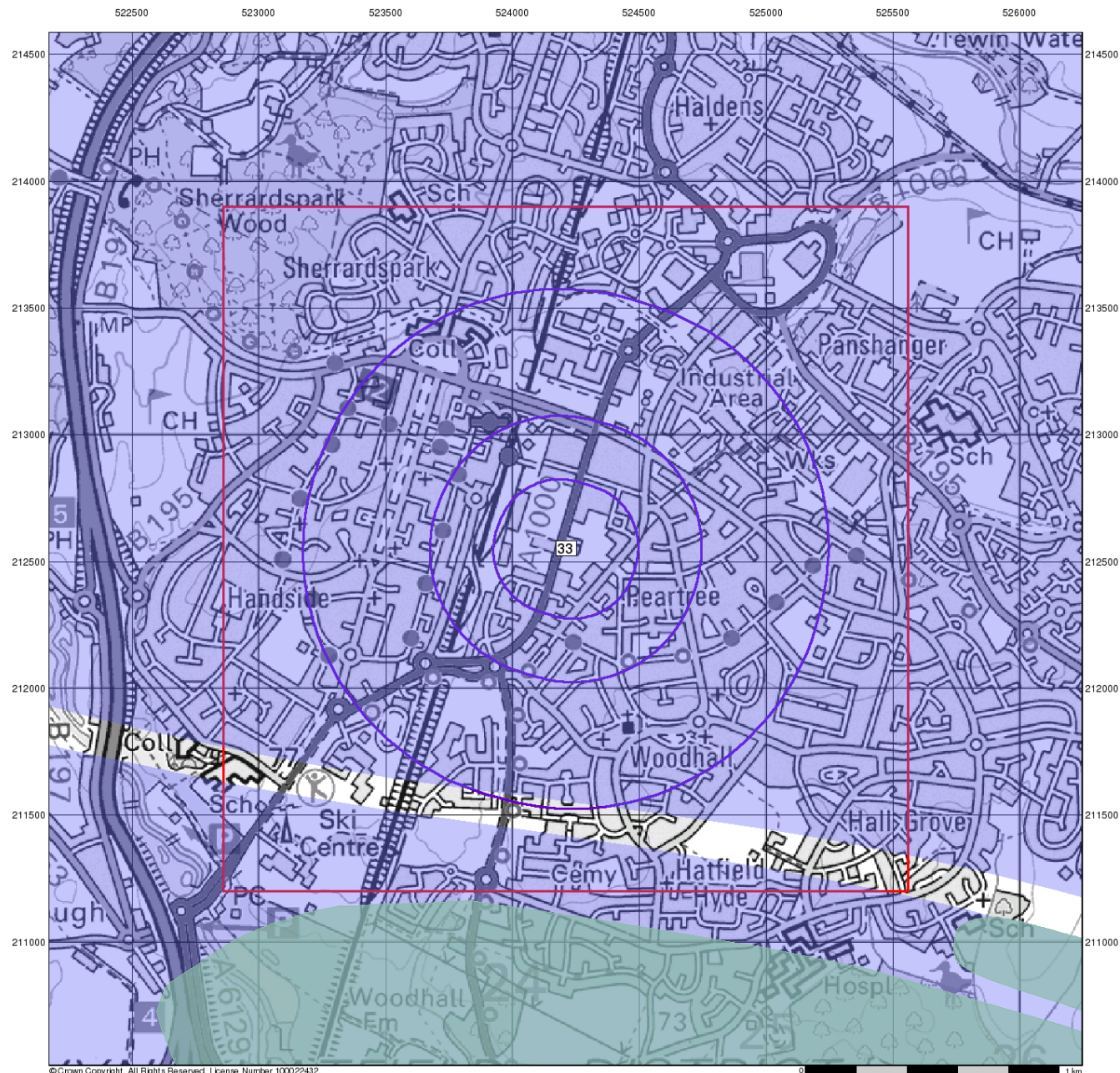


Order Details

Order Number: 103458291_1_1
 Customer Ref: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

Source Protection Zones

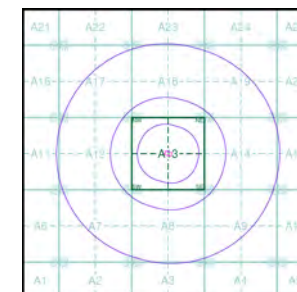
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)
- Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 103458291_1_1
 Customer Ref: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432

Sensitive Land Uses

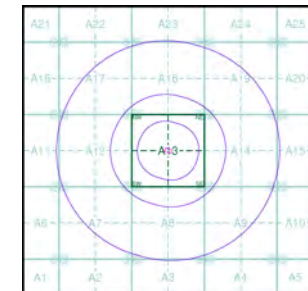
General

- ✱ Specified Site ○ Specified Buffer(s) ✕ Bearing Reference Point
- Slice 8 Map ID

Sensitive Land Uses

- | | |
|---|--|
| ■ Ancient Woodland | N National Park |
| A Area of Adopted Green Belt | N Nitrate Sensitive Area |
| U Area of Unadopted Green Belt | V Nitrate Vulnerable Zone |
| A Area of Outstanding Natural Beauty | R Ramsar Site |
| E Environmentally Sensitive Area | S Site of Special Scientific Interest |
| F Forest Park | S Special Area of Conservation |
| L Local Nature Reserve | P Special Protection Area |
| M Marine Nature Reserve | W World Heritage Sites |
| N National Nature Reserve | |

Site Sensitivity Context Map - Slice A

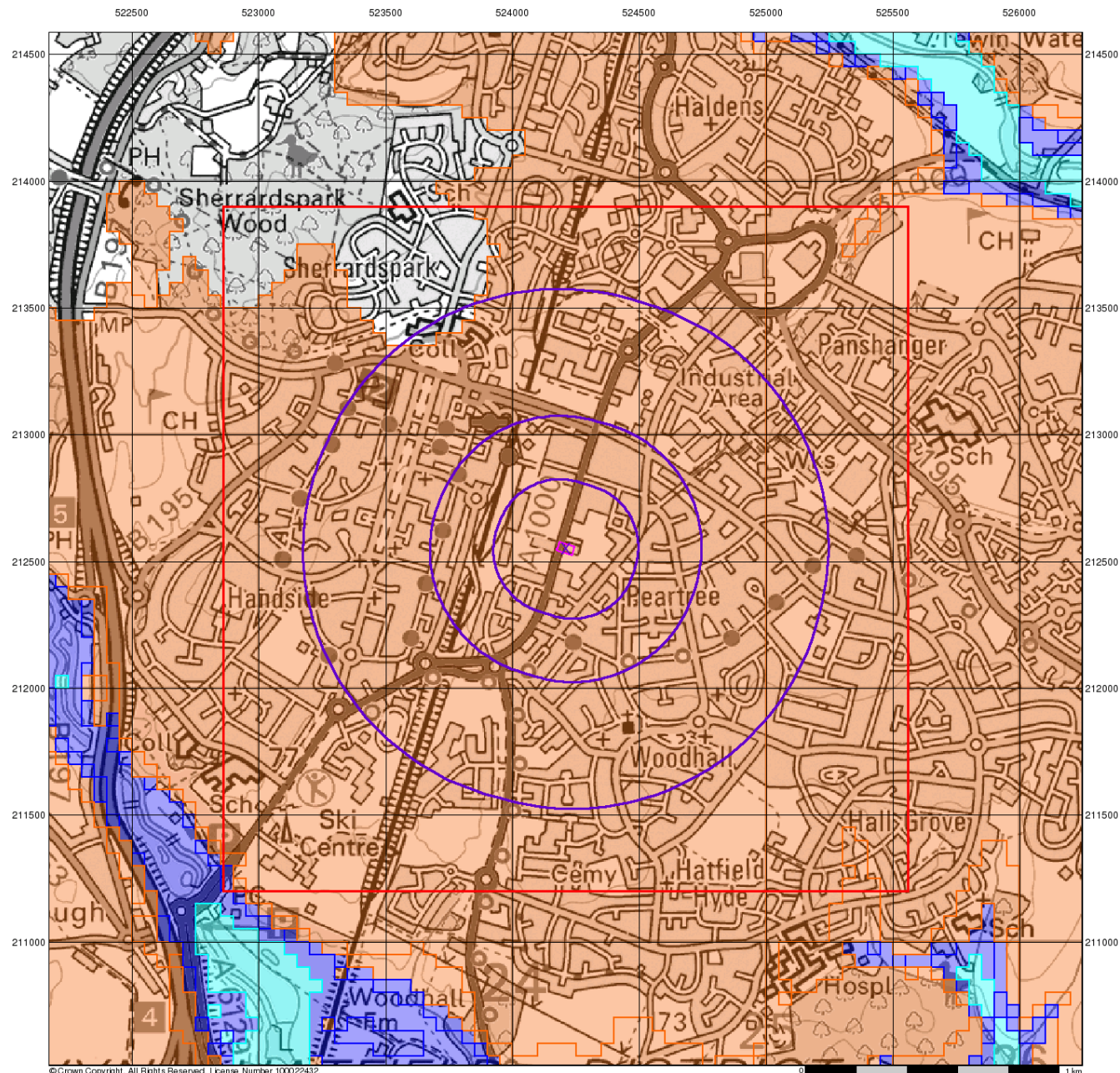


Order Details

Order Number: 103458291_1_1
 Customer Ref: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

BGS Flood GFS Data

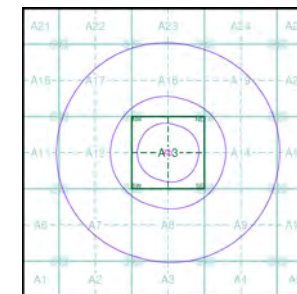
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 103458291_1_1
 Customer Ref: J16261
 National Grid Reference: 524210, 212550
 Slice: A
 Site Area (Ha): 0.21
 Search Buffer (m): 1000

Site Details

Studio Four, 37 Broadwater Road, Welwyn Garden City, Hertfordshire, AL7 3AX