FLOOD SOLUTIONS | Residence

Report prepared on
22 Knighton Road, L4 9RD

Report reference
AEL-028-FLR-031859

National grid reference
337815, 394462

Report prepared for
Law Firm Ltd

Client reference
Residence Specimen 1

Report date
07/07/2010

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British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

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Flood Risk Screening

Report prepared on

22 Knighton Road, L4 9RD

Site Area (m^2)

120.00

Current Use

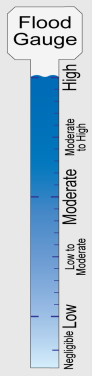
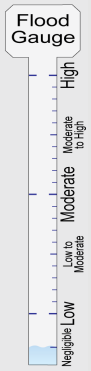
Residential

Proposed Use

Residential

1. Is the Site likely to be insurable at standard terms?	Yes
2. What is the overall risk of flooding, assuming defences fail or are absent or over-topped?	High
3. Are there existing flood defences that might benefit the Site?	No

Flood Analysis

River	Coastal	Groundwater	Surface (Pluvial)
			

Recommendations

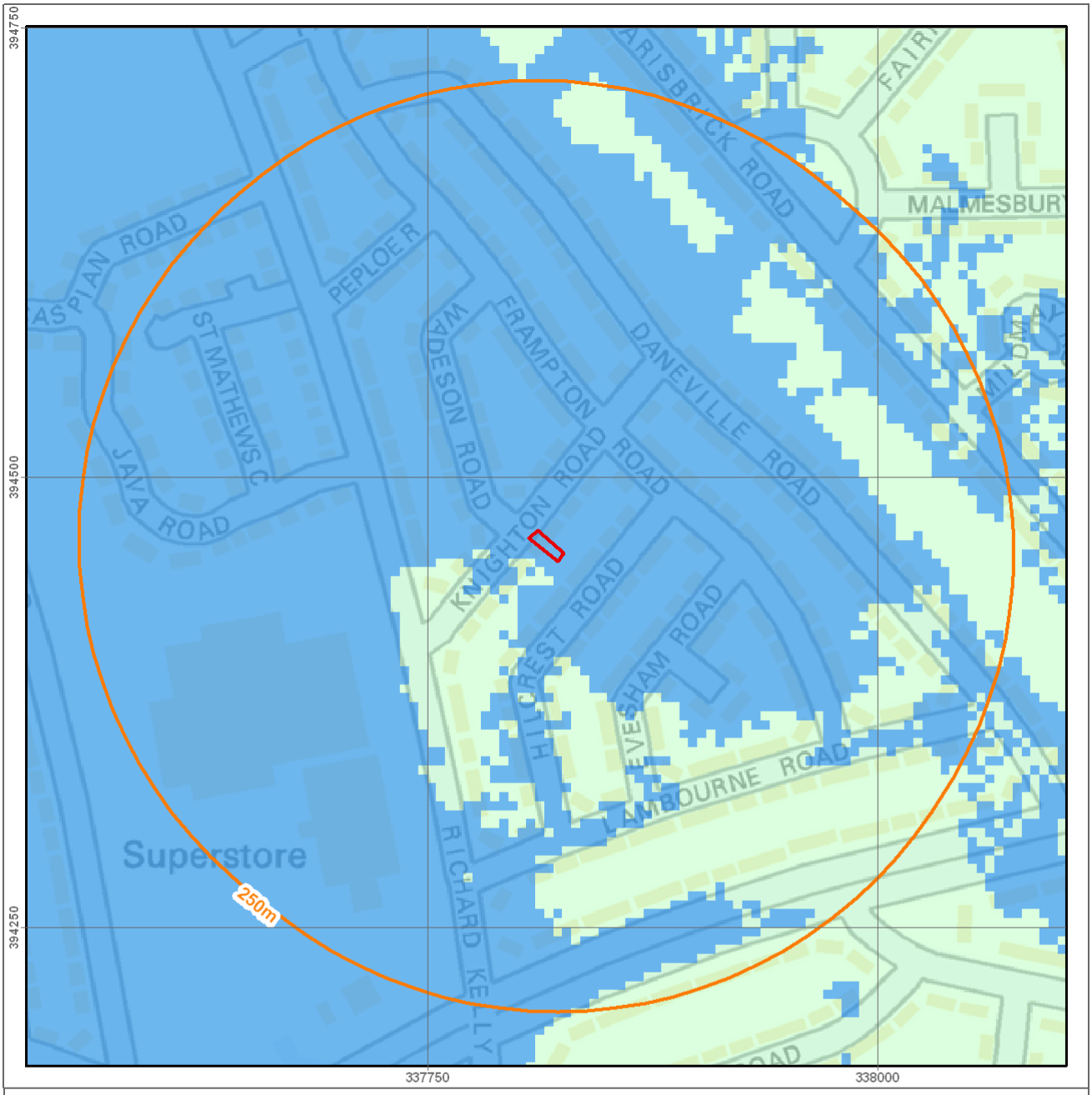
1. Flood protection measures may assist in reducing the effects of flooding on the Site (if defences are absent or fail) and could help to obtain property insurance (if not already available). Such measures include flood guards, gates, temporary barriers and tanking systems. The Environment Agency supports use of kitemarked flood products, which have been independently tested and meet the required standards. An initial survey of the Site can be conducted for approximately £250 and most providers will deduct this from the costs of any recommended products. Most houses can be protected from approximately £5,000, although significantly more may be required for high risk Sites such as this. Details of providers are available from the Flood Protection Association (contact details can be found at the end of this report). Argyll would be happy to arrange a survey by an approved supplier. Please contact us for further information.

2. If the Site is being purchased, it would be prudent to ask the vendor to confirm whether or not it is aware of any previous flooding at the Site.

3. You may wish to obtain insurance terms prior to completion of this transaction.

We would draw your attention to the Additional Considerations detailed on page 4 of this report.

Current Flood Risk



Legend of Flood Risk and Groundwater Susceptibility

- Client Site
- Area at risk of flooding from one or more sources
- Area susceptible to groundwater flooding

metres
0 50 100 200

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

Nominal scale at A4 paper size - 1:3,500

Additional Considerations

This report is primarily a flood risk screening report. In addition to the issues included within the scope of the Flood Risk Screening Methodology, you may wish to consider the following issues:

Riparian Ownership, Development Control and Sewer Flooding.	Statutory bodies may have rights of access to the Site, which is located in proximity to water features (e.g. rivers, canals or drainage channels). Alternatively a Site owner or occupier may have obligations for river channel repair or maintenance. Sites which lie on or near to a watercourse may be subject to additional planning controls. In times of extreme rainfall events, sewers can overflow and cause local flooding. Ofwat's 'DG5 - At Risk Registers' record properties that have flooded from sewers and are at risk of flooding again, with separate registers for internal and external flooding. The At Risk Registers are maintained by each of the ten water and sewerage companies in England and Wales. These registers may not be complete. Some episodes of past flooding are not recorded and sometimes the response is based on all properties connected to a local sewer network (normally up to ten houses). This due to the way in which the data is collected. Argyll can provide additional information on riparian ownership, development control and sewer flooding. The cost of this additional information is £50 plus VAT.

Tabular Summary

Current Flood Risk	Source	On-site	1-250m
Flooding From Rivers or Sea	EA	YES	YES
Flooding From Rivers or Sea (in an Extreme Event)	EA	YES	YES
Areas Benefiting from Flood Defences	EA	-	-
Flood Water Storage Areas	EA	-	-
Flood Defences	EA	-	-
NAFRA Data	EA	YES	YES
Groundwater Flooding Susceptibility	BGS	YES	YES
Surface Water (or Pluvial) Flooding	JBA	YES	YES

Historical Flooding	Source	On-site	1-250m
Historical Flood Events	EA	-	-
Geological Indicators of Flooding	BGS	-	-

Other Information	Source	On-Site
Height of Site Above Sea Level	OS	28.3m
Distance of Site Boundary to Nearest Water Feature	OS	-

Tabular Summary

If data is present, this is expressed as a 'YES' response. If no data is present then a dash is inserted.

Data Section

Where distances are reported these are expressed in metres from the boundary of the site or from a 25m radius buffer if a point search is used. A reading of 50m would therefore indicate a feature located 50m from the site boundary. A reading of 0m indicates that the features crosses the site. All directions are expressed in compass bearings as follows: N – North, NE – North East, E – East, SE – South East, S – South, SW – South West, W – West, NW – North West. The abbreviation N/A indicates 'Not Applicable'.

Environment Agency Data

1) NAFRA - The data in the NaFRA 2008 Property Flood Likelihood Database is sourced from the Environment Agency's National Property Dataset (NPD2). The information provided includes the flood likelihood category low, moderate, or significant according to the NaFRA 2008 flood risk analysis. Some areas may be classified as having no result. This occurs where there is no output data from the analysis used to produce NaFRA 2008, but the area falls within the extreme flood outline (with a 0.1% or 1 in 1000 chance of flooding in any year).

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

British Geological Survey Data

1) BGS Groundwater Flood Data - The BGS Susceptibility to Groundwater flooding hazard dataset identifies where geological conditions could enable groundwater flooding to occur and where groundwater may come close to the ground surface. The susceptibility data is suitable for use for regional or national planning purposes where the groundwater flooding information will be used along with a range of other relevant information to inform land-use planning decisions.

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

JBA Consulting Data

Surface Water (or Pluvial) Flooding - Information regarding the risk of natural surface water or pluvial flooding. The risk is classified by JBA into four categories, negligible, low (more than 0.1m), medium (more than 0.3m) and high (more than 1m) which reflect varying depths of potential surface water flooding in an extreme (1:200 year) event.

Current Flood Risk

Map ID	Details	Distance	Response and Direction

River or Sea Flooding

Flooding From River or Sea

Are there any indicative flood plains within 250m? — YES

Type: Fluvial Source: Environment Agency, Head Office, Boundary Accuracy: As Supplied. — N/A

Flooding From River or Sea (in an Extreme Event)

Are there any indicative flood plains (extreme events) within 250m? — YES

Type: Fluvial Source: Environment Agency, Head Office, Boundary Accuracy: As Supplied. — N/A

The Site (or part of it) is at a high risk of flooding from rivers and the sea, as defined by the Environment Agency's Flood Map. The risk of annual flooding is greater than 1% (from rivers) or greater than 0.5% (from the sea). Properties in Flood Zone 3 may have difficulty in obtaining flood insurance (most insurers will only cover risks of less than 1.33% annual probability). All development proposals would need to be accompanied by a Flood Risk Assessment, in accordance with PPS 25. Developments such as emergency services stations, basement dwellings and caravans, mobile homes and park homes for permanent residential use, etc. are not compatible with this level of risk. Significant planning constraints would apply to such developments as residential, care homes, hotels, short-let caravan parks, camping, etc. Parts of the Site may be within the 'functional floodplain' (>5% annual risk of flooding) within which severe planning constraints apply. It is recommended that a Flood Solutions Consult Report is undertaken to further define the flood risk issues and potential development constraints.

Flood Defences

Areas Benefiting from Flood Defences

Does the Site or any areas within 250m benefit from flood defences? — NO

The Site is over 250m from an Area Benefiting from a Flood Defence, as defined by the Environment Agency (EA). The residual risk that the Site may flood if the protection standard of any flood defences is exceeded, or if the defences fail, is low.

Flood Water Storage Areas

Are there any flood water storage areas within 250m? — NO

The Site is over 250m from a Flood Storage Area (FSA) as defined by the Environment Agency. These areas store flood water during significant flood events. It is unlikely that any FSA presents any associated flood risk to the Site.

Flood Defences

Are there any flood defences within 250m? — NO

There are no flood defences within 250m of the Site. There may be a small residual risk of flooding from overtopping or failure of defences more distant from the Site. Reference should be made to the assessment of 'Areas Benefiting from Flood Defences' to ascertain whether the Site could potentially be at risk.

Details	Distance	Rating

NaFRA Property Flood Likelihood Database

Details	Distance	Rating
What is the flood likelihood category for the Site?	-	Low
The Site (or part of it) has been defined as being at Low Flood Risk within the Environment Agency's National Flood Risk Assessment. This classification relates to the locality as a whole, rather than the Site itself and relates only to the risk of coastal or river flooding. This classification should not cause difficulties in obtaining flood insurance for the Site.		

Groundwater Flooding Susceptibility

What is the susceptibility to groundwater flooding at the Site?	-	Low
Information from the British Geological Society (BGS) indicates that the locality has a low susceptibility to groundwater flooding. Unless other records exist to indicate the Site is at risk from groundwater flooding (e.g. previous records of flooding) you need take no further action.		

Surface Water (or Pluvial) Flooding

What is the risk of surface water flooding at the Site?	-	Medium
The overall risk is 'Medium'. However, the Site is only marginally higher than the nearest 'High' risk area. In more extreme rainfall this may mean that the risk to the Site will increase. A Flood Solutions Consult Report could be undertaken to further define the surface water flood risk.		

Historical Flooding

Map ID	Details	Distance	Response and Direction

Historic Flood Events

Have any historic flood events occurred at the Site or within 250m? NO

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

Geological Indicators of Flooding

Are there any geological deposits within 250m which indicate the Site or surrounding area may have been flooded in the past? NO

Data from the British Geological Society (BGS) indicates that the type of deposits in the locality of the Site are not of the type normally associated with floodplains. However, this data should only be considered as complementary to the Environment Agency's Flood Map. This BGS data does not indicate the likelihood of flooding, since such deposits may be due to flood events which occurred thousands of years ago. Refer to the other assessments in this report for an overall assessment of flood risk.

Other Information

Map ID	Details	Distance	Response and Direction

Height Above Sea Level

What is the maximum, minimum and average height of the Site above sea level?

Maximum Height: 28.3m, Minimum Height: 28.3m, Average Height: 28.3m

The Site is at a relatively high elevation above sea level. However, this is not in itself indicative of the absence of flood risk and reference should be made to other assessments within this report.

Distance to Water Features

Are there any surface water features within 250m? NO

Feature Group: Not Given, Feature Description: Not Given, Feature Source: -

There are no water features shown on the Ordnance Survey maps within 250m of the Site.

Flood Risk Screening Methodology

This FloodSolutions Residence report is a desktop flood risk screening report, designed to enable property professionals to assess the risk of flooding at residential sites. It examines two areas; how flood risk affects the availability of insurance for a site and the overall risk of flooding at a site (taking into account any flood defences present). The report considers current Government guidance including Planning Policy Statement 25 (PPS25) 'Development and Flood Risk', and the agreement between insurance companies and central Government.

Insurance Availability

Argyll provides an indication of whether the Site is likely to be insurable for flood risk at standard terms. The answer to Question 1 is based on consideration of NaFRA data supplied by the Environment Agency and surface water (flash) flooding data supplied by JBA Consulting. This data is used by insurance companies to determine the suitability of a Site for insurance, although they may access additional information which could affect their assessment.

Under the Association of British Insurers' Revised Statement of Principles on the Provision of Flooding Insurance (July 2008), the general policy of member companies is that flood insurance for domestic properties and small businesses should continue to be available for as many customers as possible until 1st July 2013, by which time a longer term solution should be implemented. The premiums charged and other terms will reflect the risk of flooding but insurance will be available:

1) for properties where the flood risk is not significant (generally defined as no worse than 1.33% or 1–in-75 years annual probability of flooding); and

2) to existing domestic property and small business customers at significant risk, providing the Environment Agency has announced plans to reduce that risk within five years, such as improving flood defences. (The commitment to offer cover will extend to the new owner of any applicable property subject to satisfactory information about the new owner).

However, for significant risk areas where no improvements in flood defences are planned, and in all cases other than domestic properties and small businesses, insurers cannot guarantee to provide cover, but will examine the risks on a case-by-case basis. The implementation of the revised Statement of Principles depends on action from the Government and is continually reviewed by insurers. In addition, the revised Statement of Principles does not apply to properties built after 1st January 2009. Different guidance applies to these (see Climate Change – Guidance on Insurance Issues for New Developments from www.abi.org.uk).

The responses to the question 'Is the Site likely to be insurable at standard terms?' assume the Site is an existing domestic property and makes no allowance for previous claims arising from any type of flooding, nor for non-flood related risks such as subsidence.

Response	Meaning
Yes	The Site is likely to be considered acceptable by insurance companies at standard terms and flood insurance should not be difficult to obtain. No further action required.
No	The Site is not likely to be considered acceptable by insurance companies at standard terms, on the basis of current information. Further work may be required in order to obtain acceptable insurance terms for the flood risk. This could include a more detailed risk assessment or the use of accredited products, flood resilient materials and temporary defences to defend the property.

Flood Risk Rating

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

2. What is the overall risk of flooding, assuming flood defence fail or are absent or overtopped?
3. Are there existing flood defences which might benefit the Site?

The answer to Question 2 provides a worst case scenario assuming there are either no defences in the area, that any defences in the area could fail, primarily as a result of river or coastal flooding, or are overtopped by excessive flood volumes.

The answer to Question 3 is based on the presence of any flood defences registered by the Environment Agency within 250m of the Site. It should be noted that a residual risk of flooding may be present if such defences fail. Flood defences do not generally protect the Site against groundwater and surface water (pluvial) flooding.

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

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

This assesses the risk from flooding, assuming these defences are fully operational and neither fail nor are overtopped.

Questions 2 and 4 are answered by one of six standard responses:

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

Flood Analysis

The flood risk gauges provide a more detailed analysis of the risk from each of the four main types of flooding – river, coastal, groundwater and pluvial (surface water). For further information on each of these types of flooding, please refer to the Argyll FloodSolutions User Guide.

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

Limitations of the Report

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

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

Environment Agency data does not include flood risk from very small catchments as models of such small scale catchments are not considered to be reliable for UK-wide flood risk assessments. The potential impact of climate change on flood risk to the Site would require further study.

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

The data used in this report may have inherent limitations and qualifications. Further details are set out in the FloodSolutions User Guide which is available free of charge from our website www.argyllenvironmental.com, or by calling one of our

technical team on 0845 458 5250.

This report is provided under The Argyll Environmental Terms and Conditions for Flood Solutions Reports, a copy of which is available on our website, www.argyllenvironmental.com, or by calling one of our technical team on 0845 458 5250.

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(For Advice on Flood Insurance) British Insurance Brokers' Association 8th Floor John Stow House 8 Bevis Marks London EC3A 7JB	Consumer helpline 0870 950 1790	
British Geological Survey Enquiry Service British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG www.bgs.ac.uk	General enquiries 0115 936 3143 Fax 0115 936 3276	
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