



# East Riding Consultants Ltd

60 ALL HALLOWS ROAD, WALKINGTON, BEVERLEY, HU17  
8SJ

☎ 01482 871019

## Flood Risk Assessment

**Address**

Site off Finkle Street,  
Market Weighton  
East Riding of Yorkshire

**Client**

William and Caroline Holmes

**Date**

3<sup>rd</sup> March 2024

Document Control

<b>Revision</b>	<b>Remarks</b>	<b>Date</b>
A	Preliminary	4 <sup>th</sup> March 2024

**© East Riding Consultants Ltd – March 2024**  
**The client should make the planning application within 3 months of the above date.**

# CONTENTS

1.0	INTRODUCTION	2
<b>2.0</b>	<b>Methodology and site information.</b>	<b>2</b>
2.1	National and local planning policy	2
2.2	Scope of Works	2
<b>3.0</b>	<b>Sources of Data</b>	<b>2</b>
3.1	Licence information	3
3.2	Study area	3
3.3	Location	3
3.4	Description of proposed development	4
3.5	Topography	4
<b>4.0</b>	<b>Flood Risks</b>	<b>5</b>
4.1	Flood Risk Maps	5
4.2	Flood Risk Commentary	5
<b>5.0</b>	<b>Detailed analysis of flood risk</b>	<b>8</b>
5.1	Flooding from watercourses	8
5.2	Flooding from surface water	8
5.3	Flooding from Groundwater	8
5.4	Flooding from other local sources	8
5.5	Flooding from the development itself	8
<b>6.0</b>	<b>Conclusions</b>	<b>8</b>
6.1	Flood Emergency	9
6.2	Sustainable Drainage System	9

## 1. Introduction

East Riding Consultants Ltd has been commissioned to prepare a detailed flood risk assessment (FRA) for a proposed residential development of Finkle Street, Market Weighton.

A FRA is required because the proposed development is classed as a major development, this means that local and national planning policy requires an assessment which identifies and examines flood risk at the site level that also sets out measures to reduce the risk of flooding to and from the development and its occupants over the life of the development.

Part of the proposed development is within flood risk zone 2 or 3a.

This is a supplementary document to a planning application; the conditions of a planning consent are likely to refer to this document which means the applicant must comply with specific requirements set out in this FRA and give proper consideration to its recommendations in order to discharge the conditions of the consent.

## 2. Methodology and Site Information

### 2.1 *National and Local Planning Policy*

This FRA complies with the requirements set out in paragraph 9 of the Technical Guide to the National Planning Policy Framework and the East Riding of Yorkshire Council Strategic Flood Risk Assessment (2010). It clearly considers:

- How people will be kept safe from flood hazards identified
- The effect of a range of flooding events including extreme events on people and property

### 2.2 *Scope of Works*

This FRA will:

- Assess the risk of flooding to the development
- Set out specific requirements which the applicant must adhere to
- Set out recommendations that the applicant must properly consider

This FRA will not:

- Set out any detailed design
- Give detailed hydraulic calculations

## 3. Sources of Data

The following publications and data sources were used in the production of this report:

- *National Flood Risk Map for Planning – Rivers and Sea*
- *National Map for Risk of Flooding from Surface Water*
- *East Riding of Yorkshire Council Strategic Flood Risk Assessment (SFRA)*
- *East Riding of Yorkshire Flood Data Mapping*
- *National Planning Policy Framework (NPPF)*

- *NPPF Technical Guidance*
- *Flood Risk Assessments Guide for New Development (FD2320/TR2)*
- *Flood Risk Assessments: Climate Change Allowances: EA 2016*
- *Combined Planning Note on SW Drainage Requirements: ERYC 2016*

### 3.1 Licence Information

Contains Environment Agency information © Environment Agency and database right.  
Contains OS data © Crown copyright and database right 2017.

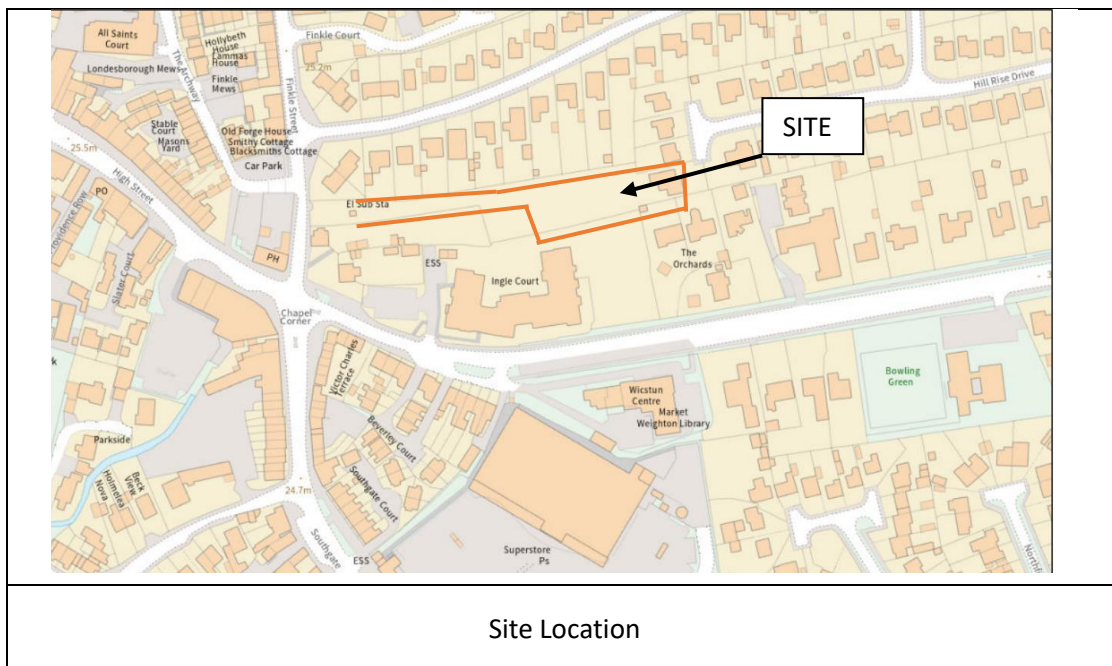
### 3.2 Study Area

The study area considered will be the Market Weighton Canal Catchments Area.

### 3.3 Location

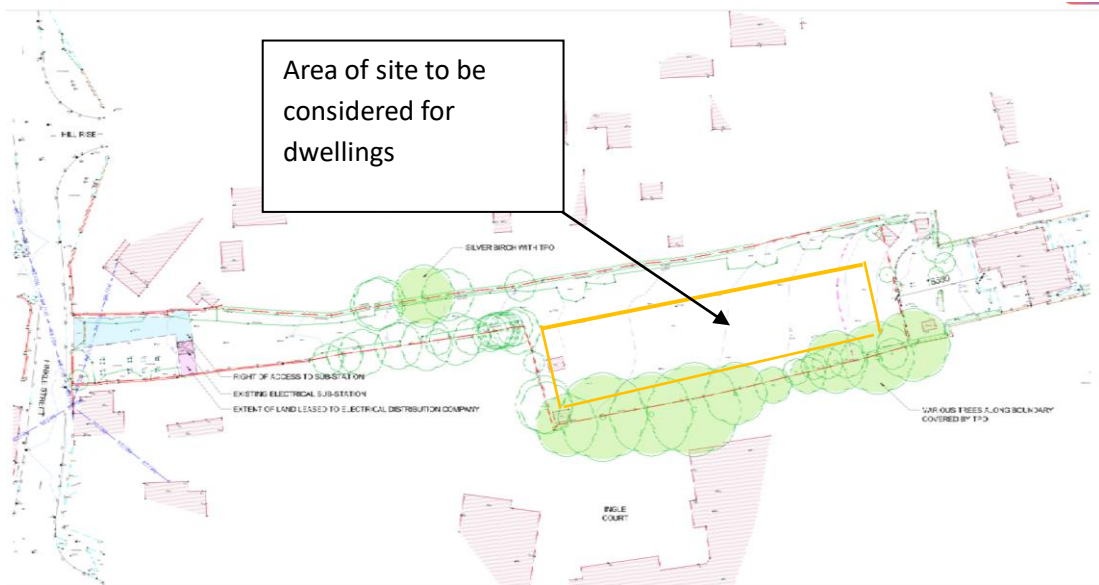
The proposed development is located in the centre of the town.

The National Grid Reference for the site is **SE 88027 41707**



### 3.4 Description of Proposed Development

The proposal is for an outline Planning application for residential properties which are all sited in the Flood Zone 1.



### 3.5 Topography

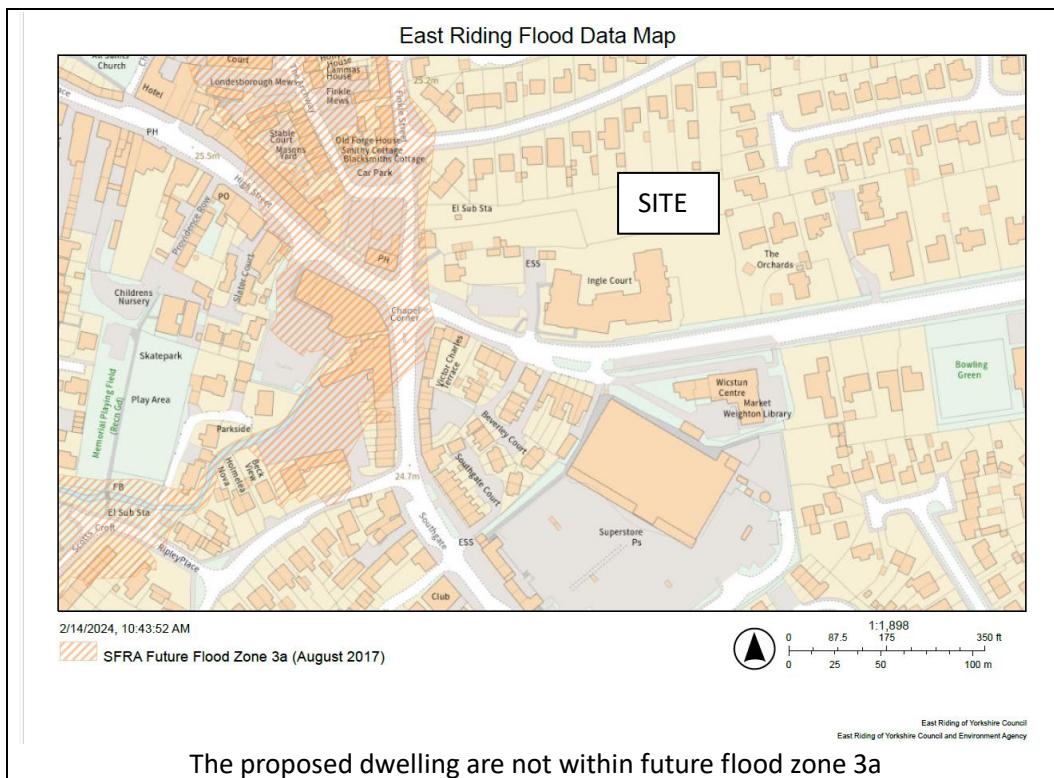
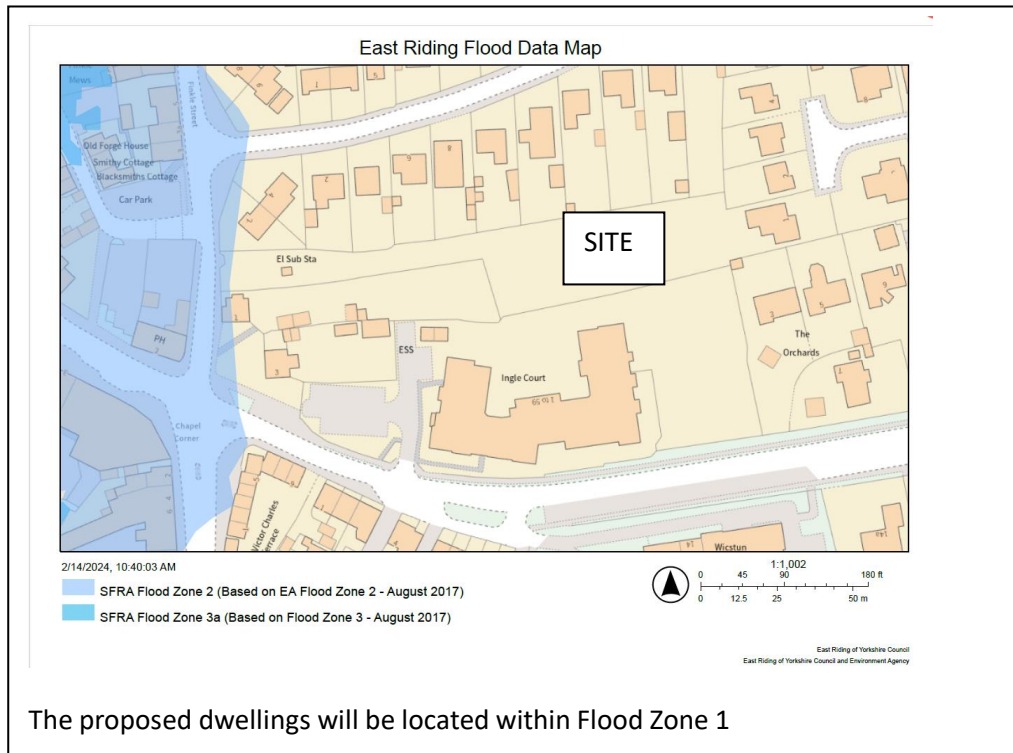
A topographical survey to Newlyn Ordnance Datum (mAOD) has been undertaken. The frontage level to Finkle Street is an average of 35.500m AOD. The site rises to the east where ground level reaches 41.00m AOD.

The proposed site for dwellings rises from 38.700m AOD to 41.000m AOD.



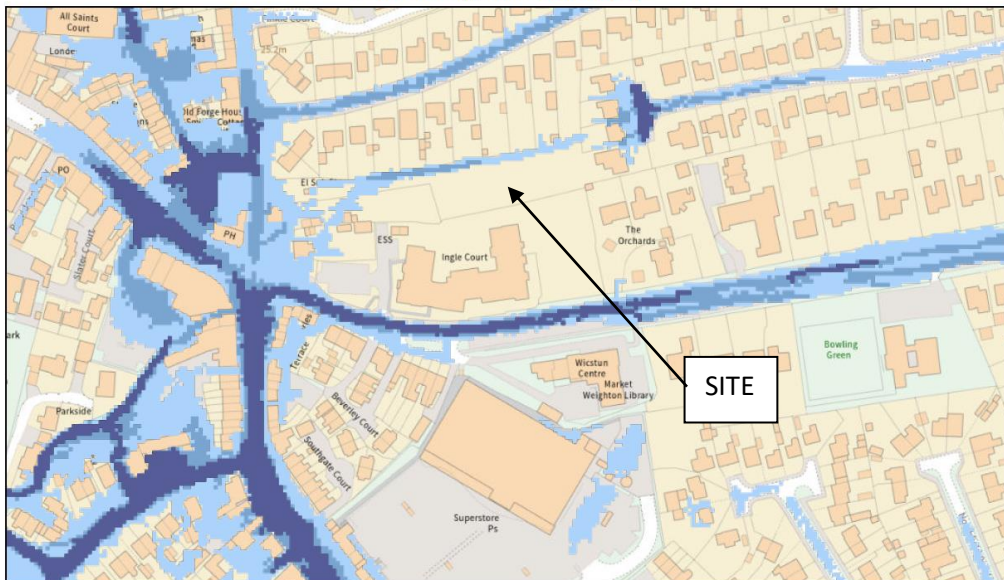
#### 4.0 Flood Risks

#### 4.1 Flood Risk Maps

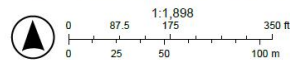




### East Riding Flood Data Map



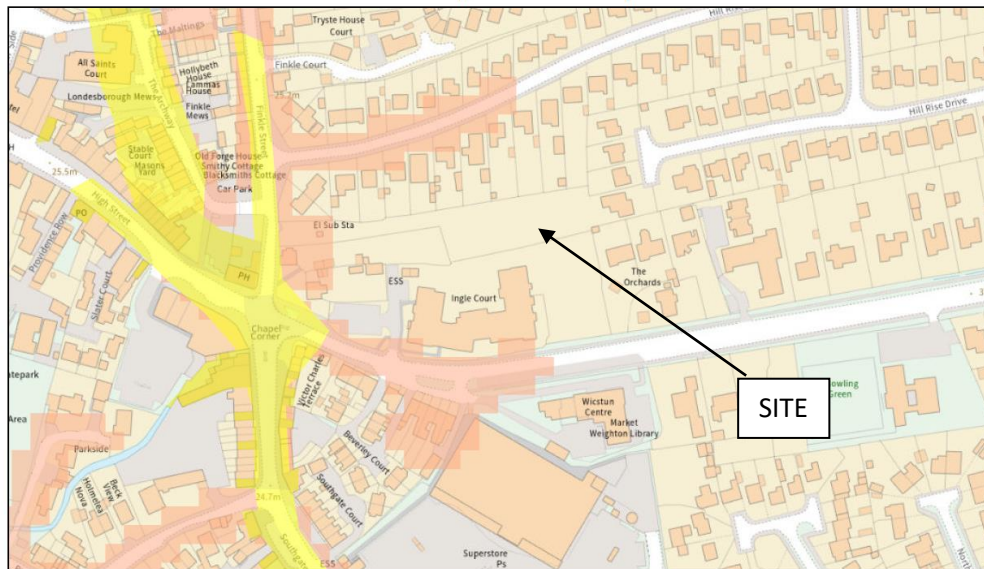
2/14/2024, 10:45:58 AM



East Riding of Yorkshire Council  
East Riding of Yorkshire Council and Environment Agency

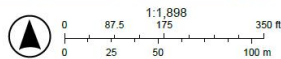
Part of the site, along the northern edge, has a small area at risk of low and medium surface water flooding. The area proposed for the dwelling is at very low risk.

### East Riding Flood Data Map



2/14/2024, 10:41:49 AM

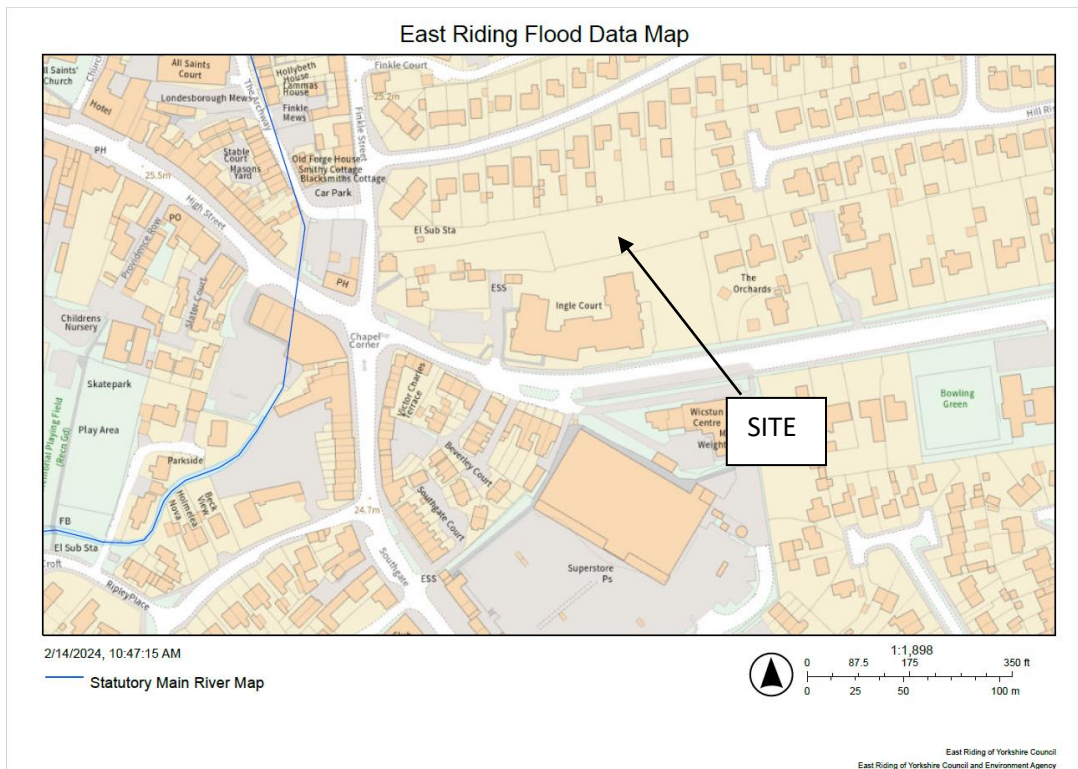
- Historic Flooding
- June 2007
- Market Weighton and South Cave 2014
- Storm Eva 2015
- EA Historic Flooding



East Riding of Yorkshire Council  
East Riding of Yorkshire Council and Environment Agency

Historic flooding has been recorded in the west end of the site at the proposed junction with Finkle Street





Weighton Beck (main river) is culverted to the west of the site and may provide an outfall for surface water from the development.

#### 4.2 Flood Risk Map Commentary

Shows the proposed residential area of the site is in flood risk zone 1. This concurs with the Strategic Flood Risk Assessment.

Part of the site along the northern edge is at low to medium risk of surface water flooding.

Historic flooding has occurred at the western end of the site and at the proposed junction with Finkle Street.

### 5.0 Detailed Analysis of Flood Risk

#### 5.1 Flooding from Watercourses (Fluvial Flooding)

Weighton Beck, located to the west of the site. It is included on the statutory river map and is therefore under the administrative responsibility of the Environment Agency. The Watercourse is in riparian ownership. Any proposed discharge to the watercourse will require consent from the Environment Agency. Historic flooding of the watercourse has occurred and the flooded area is located at the western end of the site, including the proposed junction with Finkle Street. This may affect access or egress should an extreme event occur.

## 5.2 *Flooding from Surface Water (Pluvial Flooding)*

The national map for surface water flooding indicates part of the site (along the northern edge) is between very low and medium risk of surface water flooding. The construction of a surface water drainage system for the site to cater for a 1 in 100 year event + 30% climate change will reduce this risk. This part of the site must not be raised or altered so that any flood water is directed to adjacent property. The proposed area for residential dwelling is not in a surface water risk area.

## 5.3 *Flooding from Groundwater*

Groundwater flooding is possible, with the risk in the proposed residential area assessed at 25 %.

## 5.4 *Flooding from other Local Sources*

There are no other significant risks identified to the proposed residential area, from other local sources.

## 5.5 *Flooding from the Development Site Itself*

Any increased of impervious area on the site should be mitigated with the provision of either:-

- A) Discharge to soakaways conforming to BRE Digest 365. Groundwater emergence may preclude this method of drainage.
- B) On-site storage with a restricted discharge limited to agricultural run off rate (1.4L/s/Ha) or at a rate to be agreed with the Environment Agency, to Weighton Beck.
- C) A connection to Yorkshire Water public surface water sewer at a rate to be agreed by them.

A full design should be undertaken and submitted to the Lead Local Flood Authority as part of any full or reserved matters planning submission, together with details for the future maintenance of the proposed drainage system.

The site is not located in an Internal Drainage Board area.

## **6.0 Conclusions**

Analysis suggests that the most significant risk is low to medium risk of surface water flooding on the northern area of the site. This area is outside of that set for the properties. It is assumed this risk results from possible overland flow towards Weighton Beck during extreme rainfall events.

The proposed junction and access road should be constructed at existing ground level as this will avoid the need for compensatory flood storage for loss of volume within flood zone 3.

**It is recommended that the proposed dwellings are raised a minimum of 300mm above the highest adjacent ground level. This will protect the properties from any possible groundwater emergence.**

Flooding from the site itself can be mitigated by an approved surface water drainage design for the development together with a future maintenance plan.

#### 6.1 *Flood emergency plan*

Should an extreme event occur, future resident should stay within their properties and await instructions from the relevant authorities, as to when it is safe to leave. Residents can sign up to the Environment Agency flood warning system to receive updated information

#### 6.2 *Sustainable Drainage System (SuDS)*

The designer should consider SuDS principles at an early stage. Detailed hydraulic calculations must be undertaken to establish any existing run-off rate (Brownfield runoff). This may be used in determining the allowable discharge rate to the Weighton Beck or existing surface water sewer.

If no brownfield run off exists, then the allowable discharge rate is likely to be Greenfield run off at 1.4L/s/HA but this must be agreed with the Environment Agency or Yorkshire Water.

Careful consideration needs to be given to incorporating SuDS infrastructure into the development. The following is preliminary advice and the designer should consult with specialists to undertake detailed design and hydraulic calculations.

The following design criteria need to be considered:

- **Prevention**

The layout of the development and the individual properties should present as little impermeable area as possible in the first instance, e.g. avoid the use of impervious paved surfaces.

- **Source Control**

Manage rainwater as closely as possible to the property; consider the use of rain-gardens, rainwater harvesting, permeable paving and filter strips. Green roofs can also be considered.

- ***Site Control***

If a drainage network is required, consider how the components of that network can slow and filter the water. Keep the water as close to the surface as possible, e.g. using swales.

- Regional Control

Before discharge to an off-site receptor or soakaway consider the installation of a regional SuDS attenuation system. It may be possible to accommodate an open SuDS basin and the designer should consider if any proposed public open space can be configured for this dual purpose, if levels permit.

**Report Ends**