Adapting to Climate Change Leicester City Council

°Climate east midlands

North Hamilton Sustainable Drainage System



How will the climate change in the East Midlands?

Hotter, drier summers, milder, wetter winters and more frequent extreme weather events are the headline findings of future climate modelling.



UK Climate Projections 2009 data for the East Midlands suggests that, under a medium emissions scenario, by the 2050s the region may see:

- An increase in summer mean temperatures of around 2.5°C, and of winter temperatures of around 2.2°C;
- A 14% increase in winter mean precipitation;
- A 16% decrease in summer mean precipitation.

(Source: UKCP09 - http:// ukclimateprojections.defra.gov.uk) This case study describes one way that Leicester City Council is adapting to climate change, by incorporating a sustainable drainage scheme (SuDS) into a large scale new housing development. As flood risk is projected to increase over time due to climate change (as shown left), this is one way that adaptation can be designed in from the outset. SuDS also have multiple benefits for landscape, wildlife and as an amenity for local residents.

Background

North Hamilton in Leicester is the site of a successful SuDS scheme that has avoided the need for expensive engineered flood management works and created a useful and attractive open space for the surrounding residents. The project has ensured that the area will be better placed to deal with flooding events in the face of climate change. This major urban extension of 1,500 homes started in 2001. It lies to the north west of Leicester in an area of steep topography and was previously agricultural grassland between existing housing and open countryside.

The development includes houses and flats, local shops, a doctor's surgery and primary school. River meadows, extensive wetlands, greenways, play and amenity areas and structured planting are now also part of the site. The scheme helps mimic natural drainage patterns, removing the need to connect to traditional sewers. The main driver for the use of SuDS was existing flooding problems in the nearby Melton Brook.

www.climate-em.org.uk/projects/well-adapting-east-midlands



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What we did and how

At the time of the planning application there were no formal requirements for the use of SuDS within the UK. The use of SuDS for the development was promoted by Leicester City Council to provide adequate means of managing the limited flood plain of the Melton Brook and to promote the use of green corridors within the large scale development for recreation use.



There are approximately 27 hectares of open space linked by a network of watercourses that carry the surface water from the housing area through the site's extensive sustainable surface water drainage system. SuDS offer a flexible approach to the drainage of new properties that are being built in North Hamilton. They try and mimic natural drainage from the site without connecting to the traditional storm water drains. The natural form of the site made it feasible to incorporate SuDS and as new properties are being built they are also being linked into the system. Hamilton has a rich and varied landscape, and the inclusion of SuDS has enhanced the landscape and local biodiversity.

The design of the site was considered carefully to make the most of the amenity value and ensure that the site provided areas rich in biodiversity. The site is largely residential and extensive green corridors have been designed to interlock, encouraging use by local residents. These green corridors are used regularly by the public for picnics, walking and cycling. The wetland areas also provide excellent habitat for a range of bird species including swans, geese and ducks; including the Gadwall duck, an amber listed conservation species. Local people now take more pride in their local environment, and maintenance is undertaken by a private company and paid for by local residents.

This case study shows how using sustainable solutions when adapting to climate change can provide multiple benefits to localities. This development has encouraged nearby residents to use the green space, contributing to public health objectives, and enhanced local biodiversity and provided a long term solution for managing flood risk in the area.

Next steps

As a Lead Local Flood Authority, the City Council has been active in providing learning opportunities for different members of staff about the use and practicability of SuDS. This responds both to our need as a city to try to prevent flooding issues but will also be necessary to be in line with the National Standards, part of the Flood and Water Management Act 2010 which will require SuDS to be used in all developments.



Further Information

For more information about SuDS in Leicester, please contact:

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For more information about adaptation to climate change in Leicester please visit:

http://bit.ly/NCZwup

- Or contact:
- E: environment@leicester.gov.uk
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One of a series of case studies about adaptation to climate change, developed as part of the Well Adapting East Midlands project and supported by Climate East Midlands. Other case studies can be viewed at the web address below.

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