

Surface water drainage – why so much interest?

The summer of 2007 saw an unprecedented rainfall that resulted in widespread flooding and the biggest civil emergency in British history. Of 55,000 homes and businesses flooded, surface water flooded 35,000. Managing flood risk is now high on the political agenda, writes Phil Chatfield of the Environment Agency (pictured right)



A new Government water strategy, *Future Water* and a consultation on improving surface water management were launched in February this year and the results of Sir Michael Pitt's enquiry into the floods were published in June. These documents all highlight concerns over the ability of our surface water drainage systems to cope with the predicted impacts of climate change and the more extreme weather we can expect.

So getting to grips with surface water drainage is now a priority for government, planners and developers. We can no longer rely on underground systems to carry away surface water drainage. Water will increasingly be managed on the surface, reused on site or allowed to soak into the ground.

Part H of the Building Regulations already encourages this approach. For surface water from roofs and paved areas, it contains three disposal options, listed in order of preference. This hierarchy puts soakaways or other infiltration systems first. If these are reasonably impractical, then a discharge to a watercourse may be made, with discharge to a sewer the least preferred option.

Incorporating sustainable drainage systems (SUDS) into new and existing developments is one way to manage flows from more extreme rainfall events. Though SUDS may not prevent flooding during exceptionally heavy rainfall, such as that which we saw last summer, using the SUDS approach will

help manage flood risk. SUDS techniques such as green roofs, rainwater harvesting, soakaways and permeable paving can help manage rainwater locally in high-density developments, keeping surface water runoff from site at or even below greenfield runoff rates. Wetlands and swales can also be introduced to absorb surface water runoff, and alongside green roofs, create valuable wildlife habitats.

The benefits don't stop there, as the SUDS approach can also make our drainage systems cleaner and healthier. With existing surface water drainage, rainwater picks up pollutants as it flows through the streets, and sewers can overflow, resulting in polluting discharges from sewers into watercourses. By better managing rainwater, we can help prevent this.

Interest in the many benefits of the SUDS approach is widespread and government and public bodies are acting to raise awareness of SUDS techniques. The Planning Policy Statement for England on Development and Flood Risk (PPS25) and similar documents for Wales and Scotland, recommend the use of SUDS. PPS25 is accompanied by a companion guide that offers practical advice and case studies, helping planners and developers to implement SUDS in their work.

We have promoted the SUDS approach to drainage for some time and work with a range of institutions and developers to increase understanding. We have introduced a SUDS training

“AS CONCERNS GROW OVER ADAPTING TO CLIMATE CHANGE AND SURFACE WATER FLOODING, SUDS LOOK SET TO STAY”

course for our own staff, which is also available to local authorities on request. Local authorities increasingly include SUDS in their policies, and we are seeing more examples of successful developments using SUDS.

Oxfordshire County Council has pioneered the use of SUDS for streets and other paved areas in new housing developments. They have emphasised the savings for developers in laying permeable paving, without the need for gullies and associated drainage systems, when negotiating commuted sums for future maintenance.

As concerns grow over adapting to climate change and surface water flooding, SUDS look set to stay. It is essential that drainage is considered right from the start of new developments and that it is taken into account when land is bought. Developers tend to see the benefits of SUDS, but difficulties in arranging adoption of SUDS scheme part-way through the development process is still causing problems and resulting in too many compromises. Fortunately, there is a wealth of practical advice on SUDS available, planning guidance has been enhanced and resources supporting SUDS are constantly improving. SUDS are successfully incorporated into many new and existing developments.

At the Environment Agency, we are confident that the SUDS approach will continue to gain acceptance and reduce the risk of water pollution and surface water flooding.



Oxfordshire County Council has pioneered the use of SUDS for streets and other paved areas in new housing developments