

A review of delivery by
Lead Local Flood Authorities
January 2019

Achieving sustainable drainage

Acknowledgements

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Pictured on front cover: Landscape feature incorporating successful SuDS elements at Rathbone Market, Canning Town, by Churchman Landscape Architects. Working closely with the architect and client, Churchman developed a concept to harness water shed from the building via a series of bio-diverse and productive roofs to create a large water feature at the heart of the scheme. The third and final phase of the Rathbone development, completed in 2017, achieved zero below-ground water attenuation through the use of large rain gardens and a series of blue-green roofs. The development has been recognised at the Landscape Institute Awards 2014 (Highly Commended: Design for a Small-Scale Private Development), the Sustainable Water Industry Group (SWIG) Awards, and 2017 Sunday Times British Homes Awards (Winner: Development of the Year). Image provided by Churchman. Copyright © Tim Crocker



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Foreword

There has been much debate regarding the delivery of Sustainable Drainage Systems (SuDS) through the planning system. Not only the extent to which SuDS are being included within development proposals, but also the way in which they are then delivered: their integration within a design; the quality and nature of the proposals; and whether they are used to deliver benefits beyond the management of water quantity. In SuDS delivery, the first question to ask is: 'is this sustainable drainage, or just drainage?'

The concept of SuDS is to manage water quantity, whilst also improving water quality, creating a more biodiverse and robust environment, and delivering attractive and healthy places for people. This is achieved by mixing 'soft SuDS' that utilise planting, with the necessary hard engineering. It should be the exceptional case where this is not achievable.

The Defra/MHCLG SuDS Review (August 2018), explored the uptake of SuDS through planning departments and their policies. This reviewed the policy base, and the work of a limited number of authorities, but did not engage with those responsible for approving the schemes that are submitted to planning, namely the Lead Local Flood Authorities (LLFA). Whilst a good policy-base is essential, it must then deliver effectively on the ground. This research therefore supplements the government's study. It has revealed underlying failures within the current system, and the variability of delivery through a system that doesn't readily facilitate the best outcomes for both communities and the environment.

We are already seeing some change: for instance a greater diversity of adopting bodies (from water companies to independent trusts) being embraced by the industry. Looking forward, with some changes that are likely over the next couple of years, we can hope for not only better design integration of SuDS within developments, but also better integration of long-term management within the development sector's thinking. That would be real progress.

It is hoped that these recommendations can assist in making (relatively minor) changes to the current system, that can ensure we deliver integrated and multi-functional systems, that really are indeed SuDS, in the future.

Sue Illman

Past President of the Landscape Institute
CIC Champion for Flood Mitigation and Resilience



In SuDS delivery, the first question to ask is: 'is this sustainable drainage, or just drainage?'



Executive Summary

This research seeks to evaluate the effectiveness of SuDS delivery through the planning system in England, the successes and failures of the current system, and how those failures could be remedied. We surveyed Lead Local Flood Authorities (LLFAs), who are responsible for assessing and approving surface water drainage schemes.

Key findings and recommendations

- **Local policy.** There is a wide variability in SuDS policy across England, from the comprehensive to the almost non-existent. 34% of authorities rely on Design Guides rather than policy or SPDs, while 25% have no formal policy and no plans to implement one. Making SuDS mandatory for all scales of development would require a better policy base, with two-tier authorities needing to coordinate their approach.
- **Scope of LLFA remit.** LLFAs feel constrained in their ability to require SuDS submissions to include multi-functional benefits (improvements to water quality, biodiversity and public amenity), as the Non-Statutory Technical Standards (NSTS) do not require them. Although recent changes to the NPPF have helped, a better definition of the role of the LLFA is needed, to confirm that it should encompass all aspects of SuDS and not just water quantity.
- **Consultation.** Involvement of the LLFA at the pre-application stage is crucial to encourage development that embraces a multi-functional approach. Almost half of authorities (49%) offer pre-application advice 'only when requested'. All major schemes should be subject to pre-app meetings with the LLFA (ideally jointly with the Planning Department).
- **Design principles.** The best practice principles of multifunctional SuDS described in The SuDS Manual are rarely used as the basis for schemes submitted to planning.
- 96% of authorities reported that the quality of submissions was either 'inadequate' or 'mixed'. The 'easy' option of over-sized pipes, tanks, and crates is common, with a 'token-gesture' swale or pond. The NSTS ought to be expanded to include water quality, biodiversity and amenity.
- **Quality of submissions.** Only 3% of authorities reported receiving adequate information to assess a planning application. Clear submission requirements for major and minor schemes would help, with separate checklists on the Planning Portal for outline, detailed, and reserve matters applications.
- **Delivery.** The planning process from outline to detailed consent tends to erode the delivery of potentially high-quality SuDS. Provisional concepts are not followed through, exacerbated by piecemeal/phased applications, or negotiations by the developer. All major changes to design affecting drainage should be referred to the LLFA, with a stronger 'golden thread' for the overall drainage concept.
- **Adoption of SuDS.** Almost no housing SuDS schemes have been adopted by local authorities since April 2015, with many ongoing management and maintenance issues still unresolved. Where no adoption market exists, Councils should explore new models - for instance, establishing new commercial entities and trusts.

Introduction

1.1 What are SuDS?

Sustainable Drainage Systems (SuDS) are a method of managing surface water runoff within the built environment, usually by incorporating natural elements.

SuDS adopt a multi-functional approach which seek to maximise the benefits that can be achieved from water management. **The four pillars¹ that underpin SuDS design are:**

- Managing water quantity
- Improving water quality
- Enhancing and supporting biodiversity
- Delivering amenity by creating attractive and healthy places for people

The most sustainable form of SuDS are those that are designed to manage or use water close to where it falls, on the surface, and by incorporating vegetation. These are considered to be most able to deliver the widest range of multi-functional benefits.

Whilst SuDS are included as appropriate measures in areas prone to flooding, it should be noted that SuDS are not intended to prevent river flooding (fluvial), as its purpose is to address surface water flooding from rainfall (pluvial). Managing rapid surface water runoff, and in particular retrofitting SuDS, can reduce existing surface water flooding problems, which may also help reduce low level river flooding where it is exacerbated by urban runoff. However, SuDS cannot prevent river flooding on their own.

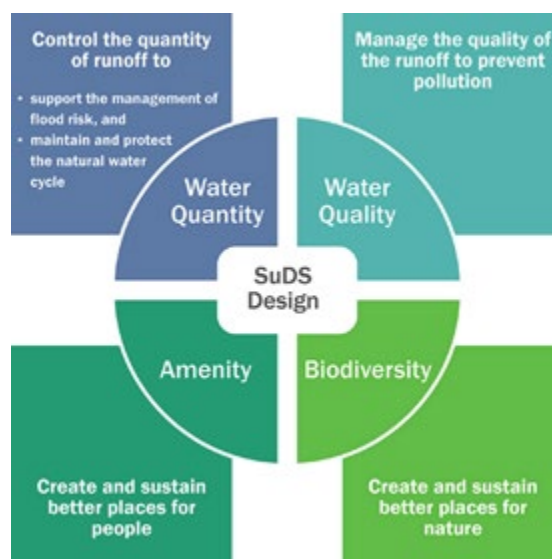
1.2 The current policy context

Consideration of SuDS is now a statutory obligation within the planning system in England.

Through the implementation of the Flood and Water Management Act 2010, SuDS were intended to be mandatory for all major development throughout England and Wales.² However, the Government did not confirm the final piece of enabling legislation (Schedule 3 of the Act) which would enforce this.³ The rest of the legislation was enacted, and many local authorities made the changes to their policies, staffing and internal organisation to enable SuDS to be better delivered.

SuDS requirements are now a part of planning policy. The 2012 National Planning Policy Framework (NPPF) made SuDS a requirement for sites subject to river flooding, that are located in Flood Zones 2 or 3. For other developments, SuDS were delivered through the planning system (on a non-statutory basis) based on local policy. In April 2015, Defra published Non-Statutory Technical Standards (NSTS) for Sustainable Drainage Systems, covering their design, maintenance and operation.

The role of reviewing SuDS design within major planning applications (more than 9 dwellings or 1000m² development) was given to County Councils or Unitary Authorities through their role as Lead Local Flood Authorities (LLFAs), which were set up under the Flood and Water Management Act 2010.



¹SuDS Manual 2015, CIRIA RP753.

²The Act included Wales but allowed them to confirm their own system. This has now been approved by the Welsh Assembly government and will come into force on 9 January 2019. Scotland and Northern Ireland were not covered by the Act.

³The Government have since stated that they will not commence Schedule 3 of the act, in their response to the Defra Select Committee post-legislative scrutiny inquiry into the act.

The revised 2018 NPPF has strengthened the requirement for SuDS through minor changes to policy.
National planning policy in England now requires that:

[Para 163] Development should only be allowed in areas at risk of flooding where [...] it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate.

[Para 165] Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:

- a** take account of advice from the lead local flood authority;
- b** have appropriate proposed minimum operational standards;
- c** have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
- d** where possible, provide multifunctional benefits.

There is no requirement for SuDS within minor developments, unless this is contained within individual local plans. Minor developments account for around 90% of all planning applications (2018).

1.3 The purpose of this review

The purpose of this review is to assess how SuDS policy is being delivered on-the-ground by SuDS Officers (or their equivalent) within local authorities.

This review is intended to supplement research undertaken by Defra and MHCLG into the uptake of SuDS through planning, requested by Parliament during the passage of the Housing and Planning Bill 2016 and published August 2018. It offers a wider survey of those at the “coal face” of SuDS delivery, to capture their views of how effective the policy is in supporting SuDS delivery, the quality of the outcome, and whether the system is currently delivering sustainable drainage, or just drainage.

1. Rednock School, Illman Young Landscape Design Limited, 2010. Planted swale integrated within the open space design for a school.



2

Structure and methodology of the review

2.1 Structure of the review

The review is divided into 6 sections that reflect different parts of the survey:

- Understanding who responded
- The role of LLFAs in planning
- How SuDS are delivered through planning policy
- How SuDS policy is delivered in practice
- The effect of the Non-Statutory Technical Standards (NSTS) in delivering SuDS since April 2015
- Issues around adoption and maintenance

The review then considers the differences that arise as a consequence of the differing roles of LLFAs within County Councils and Unitary Authorities or Metropolitan/London Boroughs. A final section considers how the system could be improved by reviewing the wide-ranging commentary provided by those who responded to the survey.

Within the document there are two types of comment:

- The 'Summary of comments' is a synthesis of a consistent number of comments from individual submissions
- 'Comments' are direct quotations from individual submissions and indicated by quotation marks

Our aim throughout has been to ensure that the words and thoughts of the respondents are represented as widely and as accurately as possible.

2.2 Delivery of the survey

The survey was disseminated via the Local Authority SuDS Officer Organisation (LASOO) website, and through various CIC member e-newsletters, websites, and the network of those involved in water management.

The survey was undertaken using Survey Monkey, with two parallel surveys which reflected the slightly different roles between County Councils and Unitary Authorities/Metropolitan Boroughs. It opened in February 2017 and closed in July.

The outcome of the two surveys was summarised and compared to develop a clear understanding of the overall picture along with any differences between the two types of authority, and then reviewed in detail by the key institutions and individuals involved.

2.3 The authorities involved

County Councils and Unitary Authorities were required to form LLFAs from April 2015. There are 27 County Councils and 55 Unitary Authorities (UA) in England. There are also 68 Metropolitan and London Boroughs in England, plus the Isles of Scilly and City of London Corporation.

The survey received unique responses from 21 County Councils and 48 Unitary Authorities and Metropolitan/London Boroughs. This represents 78% of Counties and 39% Unitary/Boroughs. The response covered authorities across the country, with a wide range in scale from small Unitary to large County authorities.

Despite the differences between Counties and Unitary Authorities and Metropolitan/London Boroughs due to the one- and two-tier system of governance, and contrary to our expectations, the two types of authority surveyed returned broadly similar responses. As the two surveys differed in their delivery and question-set, we have continued to report the figures separately, however we do not believe this would be necessary for any future research.

⁴Defra/MHCLG, A review of the application and effectiveness of planning policy for Sustainable Drainage Systems (SuDS), 2018, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/734684/Review_of_SuDS_Report.pdf

⁵LASOO was an association of interested LLFAs who dealt with SuDS through the planning system. LASOO is preparing to transition to a formal association, Association of SuDS Authorities.

About those who participated

3.1 The individuals involved

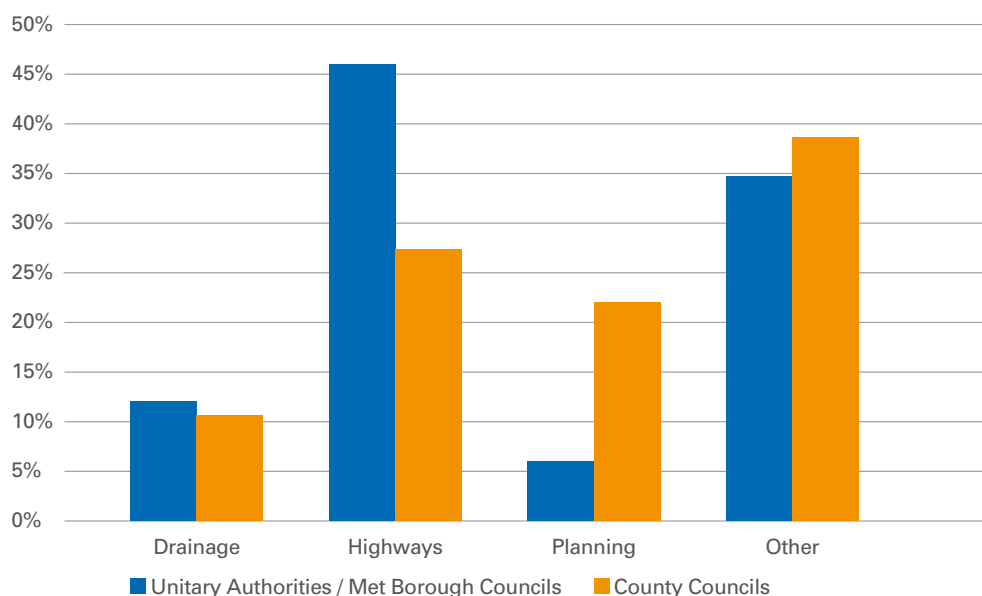
All those who responded are involved in consultations and approvals for SuDS in new developments, with 38% having the role of Flood Risk Manager, 35% having the role of Drainage Engineer, a small number (5%) of Highways Engineers, and 23% either SuDS Officers, dual roles or having a broader role in Flood Risk and Sustainability.

3.2 How their authority is structured and staffed

Today, the range of local authority directorates or departments are widely variable in their scope and composition, such that there is no consistent location within which LLFAs sit. However, the most frequent is Highways, with 46% of Unitary Authorities and Metropolitan/London Boroughs but only 28% Counties having this arrangement. With the opposite being true for LLFAs in planning departments, with 22% of County Councils but only 6% Unitary/Boroughs.

Surprisingly, few LLFAs sit within a drainage department (11% Counties and 13% Unitary/Boroughs), but a significant number are within a broader department of Economy & Place, or Environment, or conversely Civil Engineering Services or Building Control. Some were also broader Highways related, such as Sustainable Transport or Infrastructure. These are aggregated as 'Other'.

In which department do LLFAs sit?



Total answered: 48 Unitary/Boroughs and 18 Counties

The average number of staff is 4 full time equivalents (FTE). Counties almost inevitably have a higher number of staff, due to their greater geographic area, with staffing of around 6 people (FTE), but ranging from 1 to 14 at the extremes (although some authorities have included staff with wider flood risk responsibilities). Unitary/Boroughs average around 3 people, with a large number having 1 or 2 staff.

Providing advice on drainage for planning is part of the LLFAs statutory duty for which they are paid a fee. One council reported receiving £18,000 pa for this service, and LLFAs suggested that existing payment rates do not support the level of service offered/required.

Summary of comments:

- A number are understaffed and struggle to attract or retain suitably qualified people
- Many have to outsource to commercial organisations to supplement their own staff
- Comments that resourcing is inadequate to deal with the work required

3.3 The LLFAs role and responsibility

Very few (6%) LLFAs in Unitary Authorities and Metropolitan/London Boroughs have devolved any of their duties to others, whereas 22% of Counties have, however, in the main this relates to their land drainage function, which is undertaken by the local Internal Drainage Board (one or two authorities have devolved responsibility to one of their District Councils and one Unitary/Borough uses a County for major applications).

4

How SuDS is delivered through planning policy

4.1 The current context

The nature and status of local authority policy documents related to SuDS is extremely variable, depending not only on their current status (in the planning policy cycle) but the extent to which each authority perceives pluvial flooding to be a problem within their authority.

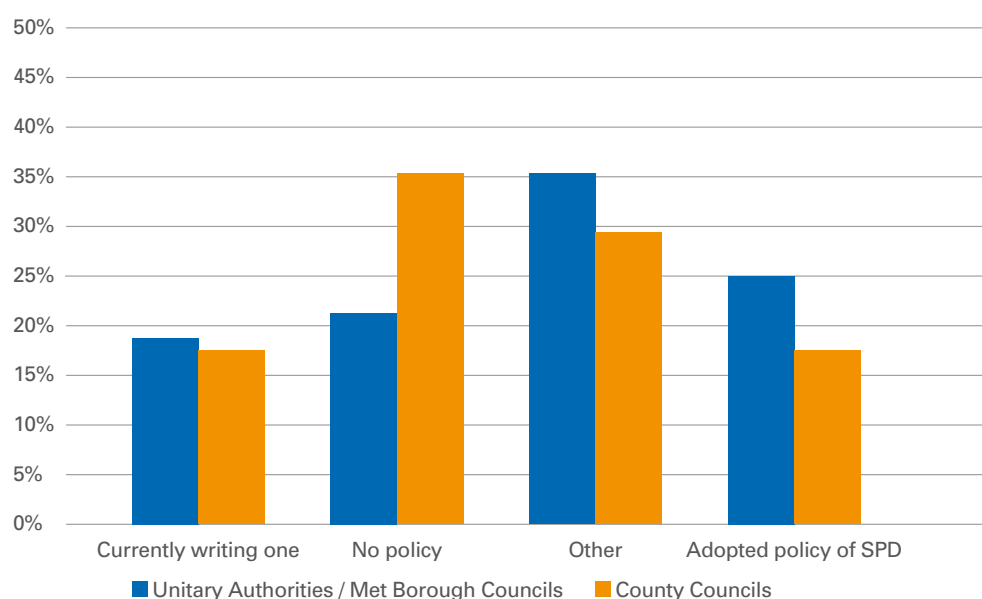
At the same time, where there are two tier authorities this variability in timing and emphasis is repeated by the Districts and Boroughs. Whilst there seems to be alignment in principle between the two tiers of authority, it appears that the detail can be significantly different.

This survey was undertaken before the 2018 redraft of NPPF, and the changes to SuDS planning policy may change the balance here. The requirement to “take account of advice from the lead local flood authority” means that LLFAs may be in a better position to push for higher quality SuDS delivery.

4.2 SuDS Policy or other documents

Roughly a quarter of all authorities surveyed (23%) have policies or SPDs relating to SuDS, whilst a further 34% have other documents – predominantly Design Guides, SuDS information as part of other policies, or rely on checklists or the planning application validation checklist to ensure that appropriate information is submitted. A significant number (35% County Councils and 21% Unitary Authorities and Metropolitan/London Boroughs) report they do not have a policy and are not in the process of writing one. On the positive side, some authorities have also grouped together to create a joint document covering a broader region.

What SuDS policy documents do LLFAs have?



Total answered: 48 Unitary Authorities and Metropolitan/London Boroughs and 17 Counties

Counties report a different, but equally variable picture within their Districts and Boroughs. 76% of Counties report 'some of' their Districts and Boroughs having a chapter on SuDS in their Local Plan, while 53% report 'some of' their Districts and Boroughs have an SPD relating to SuDS and 41% report 'none of' them do. The overall picture is of a broad range of policy, SPDs, guidance or checklists of widely varying complexity and detail, from the comprehensive to the simple, or authorities where such planning guidance is either non-existent or not planned or both.

This indicates a significant lack of consistency in approach throughout the country.

The questionnaire asked whether their authority's policy or SPD purely addressed the requirements of the NSTS for SuDS or whether it followed the principles laid out in the latest edition of the SuDS Manual 2015⁶ (the 4 equal pillars of quality, quantity, amenity and biodiversity).

The majority of Counties (71%) reported that their authority's policy is a mixture of the Manual and the NSTS guidance, while 21% stated that their policy does not deal with technical matters. For UA/MBs, 42% reported a mixture, 28% reported that their policy does not deal with technical matters and 19% reported that it follows the principles of SuDS fully.

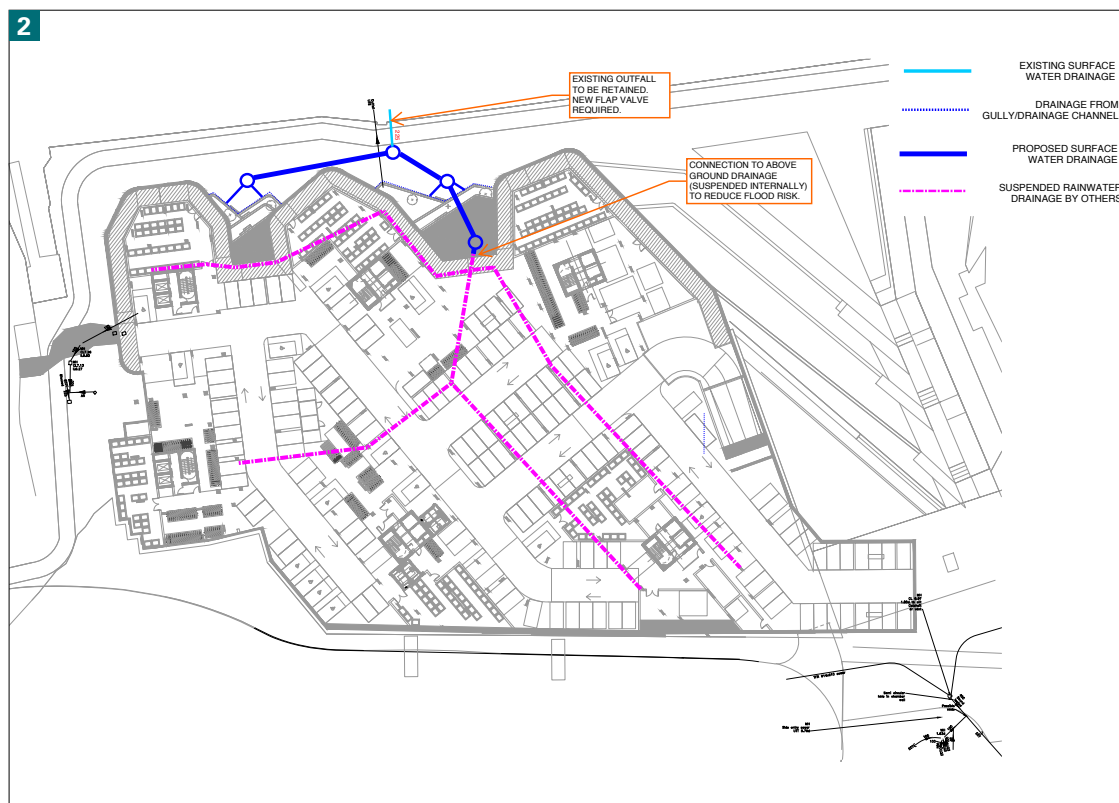
LLFAs suggested that it is difficult to reject SuDS that do not follow a more holistic approach as refusal on this basis is unlikely to be supported by an inspector at appeal/inquiry due to the NSTS only requiring water quantity to be addressed.

Summary of comments:

- Councils feel constrained by the NSTS for several reasons: they don't see tanks and large pipes as sustainable, but find them difficult to challenge as they can't refuse them if they deal with quantity; their own SPD's encourage 'green' SuDS and multiple benefits, but find it very difficult to deliver due to the quantity emphasis in the Guidance. One said 'the spirit is willing but the legislation is weak'
- Some Counties are seeing the value of pre-app consultations, changing their procedures and charging in order to improve engagement for significant developments
- Some good relationships are developing, with Counties working with Boroughs to improve their SuDS policies, and some Boroughs adopting the County's Design Guides
- A few authorities are working with developers to achieve more sustainable/integrated SuDS systems

⁶SuDS Manual 2015, CIRIA RP753.

2. Example of inadequate information submitted to LLFAs to discharge SuDS conditions. The condition prohibited development until the planning authority had approved in writing a surface water drainage scheme based on sustainable drainage principles and an assessment of the hydrological context of the development, including green roofs, reduced run-off rates to any sewer, and details of management and maintenance plans for the scheme following completion. All criteria were notably absent from the design.



How SuDS policy is delivered in practice

5.1 The value of pre-app advice in achieving well integrated design

It is increasingly realised within planning (but less so on the developer side), that in order to be most effective, SuDS need to be designed into the development from the outset. This enables sufficient space to be allocated in appropriate areas of a site (not more space), and for that space to form a meaningful part of its overall function. This can take a variety of forms from urban plazas, recreational space, or part of a street scene, to designed water feature or as a means of collecting rainwater (for re-use).

This is most effectively achieved if the planning authority and LLFA work with the developer to encourage effective design solutions that fulfil both policy objectives and the developer's requirements.

5.2 The LLFA role in pre-app advice for major applications

Less than a third (29%) of authorities were automatically involved in pre-application advice for major applications, with just under half (49%) involved 'only when requested'. There was also a significant difference between County Councils and Unitary/Boroughs.

The majority of Counties (65%) were involved 'only when requested', with only 12% saying that they were automatically involved. For Unitary Authorities and Metropolitan/London Boroughs, there was a higher percentage of automatic involvement (35%) with 44% involved 'only when requested'.

Just over half of authorities (52%) offer this as a standard option, with almost all of the rest offering it when requested. Only a very small number of authorities (Counties 6% and 10% Unitary/Boroughs) do not offer it at all.

There is a question as to whether charging for pre-app advice is a deterrent for developers, with 59% Counties charging for this service, but only 21% of Unitary/Boroughs doing so. However, as many authorities are under-resourced/underfunded for this work, charging is perhaps increasingly likely. However, effective pre-app discussions can reduce iterations and speed up planning applications significantly, if both sides engage properly with the process.

Pre-app advice does not cover adopted highway drainage for 37% of authorities, with only 18% Counties and 38% of Unitary/Boroughs covering it. The remainder cover adopted highway drainage when requested.

5.3 The LLFA role in pre-app advice for minor applications

Counties do not have a statutory role with regards minor planning approvals for SuDS and therefore over half (53%) report no involvement. However, 12% of Counties report their automatic involvement and a further 35% when requested. For Unitary/Boroughs, 4% are automatically involved, 10% 'in most cases' and 60% when requested. Pre-app advice is generally offered as a standard option (even if only when asked) with only 29% of authorities not doing so.

5.4 The LLFA role in pre-app advice for major applications in flood zones

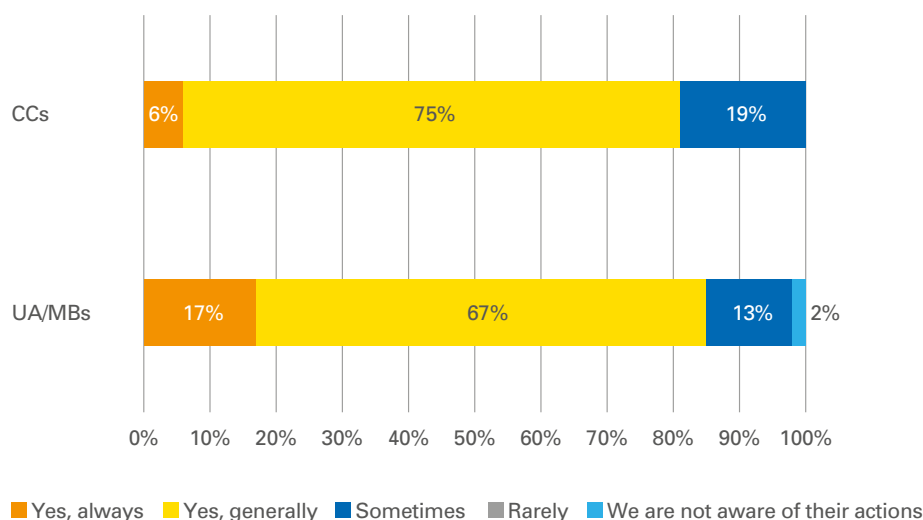
The picture is much more positive for major planning applications in flood zones with both authorities being automatically consulted in 89% of cases regardless of flood zone. (Flood zone is taken to mean zones 2 and 3).

The vast majority of authorities (95%) are happy to consider any type of SuDS component in their advice, based on its appropriateness for each scheme. The remaining 5% did not consider attenuation storage tanks, oversized pipes and geocellular storage tanks appropriate.

5.5 LLFA advice – its uptake and feedback

The vast majority of LLFAs feel their advice is taken by the planning department when they determine an application, with 84% of authorities reporting their advice is 'always' or 'generally' taken⁷. There is a small difference in favour of Unitary/Boroughs.

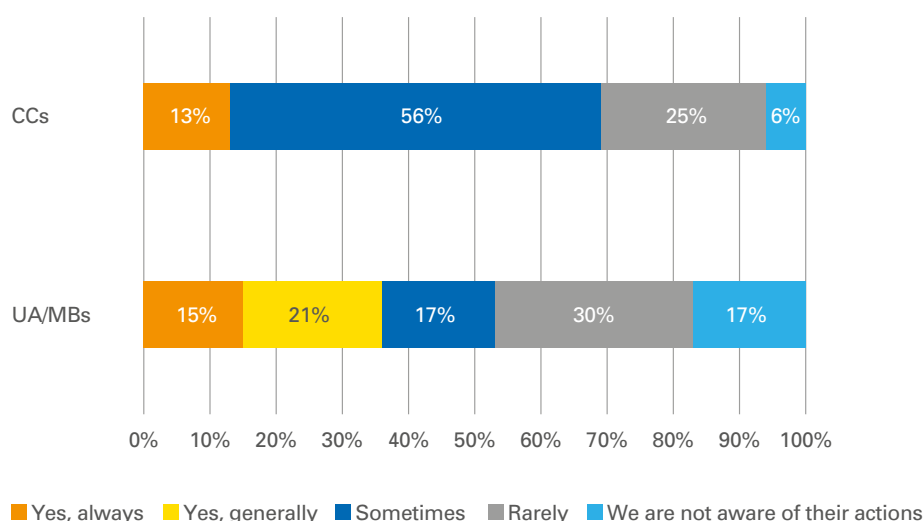
Is advice of LLFAs taken in determining an application?



Total answered: 16 Counties and 46 Unitary/Boroughs

Unsurprisingly, the closer relationship between Unitary/Boroughs and their planning departments seems to deliver better communications than between Counties and their districts and boroughs, with 36% of Unitary/Boroughs reporting they are 'always' or 'generally' informed whether their advice has been taken, compared to only 13% of Counties. However, this does not seem to be of particular concern to any of the authorities.

Are LLFAs informed as to whether their advice is taken in determining as application?



Total answered: 16 Counties and 47 Unitary/Boroughs

⁷Advice taken' by the planning department in the case of Unitary/Boroughs; and by the relevant Districts or Boroughs in the case of Counties.

Summary of comments:

- Most LLFAs reported not being informed as part of standard practice, as policies do not require it. The feeling is that they are expected to check the decisions online if they want to know
- Some LLFAs mention resource issues within the final decision-making body which are a barrier to communication, or within their own team to be able to monitor decisions
- Where LLFAs are informed, its likely to be because there is further involvement required from them (e.g. consultation on the discharge of drainage conditions)
- Some LLFAs mention they are informed of general planning decisions, but not the grounds on which they were approved or rejected

There are mixed views on whether flooding is seen by planning departments as a key determinant of the outcome of a planning application. Over a third (37%) of LLFAs feel it is seen as key and must be fully regarded, 30% feel it is seen as important and 22% feel it is seen as one of many factors in the planning mix. There is little difference between Counties and Unitary/Boroughs.

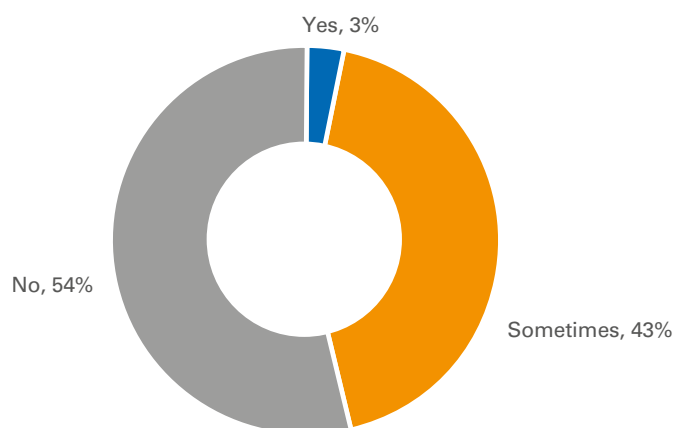
Summary of comments:

- Flood risks are considered more important by the planners when in flood zones 2 and 3 (i.e. fluvial) than when it is just a surface water matter
- Environmental Agency advice on fluvial flooding is almost universally accepted

Adequacy of the information submitted to Planning

There was a very strong response that the information received is either inadequate for the LLFA to be able to assess an application fully (54% of LLFAs) or only sometimes adequate (43%). Just 3% of authorities considered the information received to be adequate. LLFAs then needed to spend time requesting further information to be able to assess the scheme, or potentially recommend refusal based on an inadequate submission.

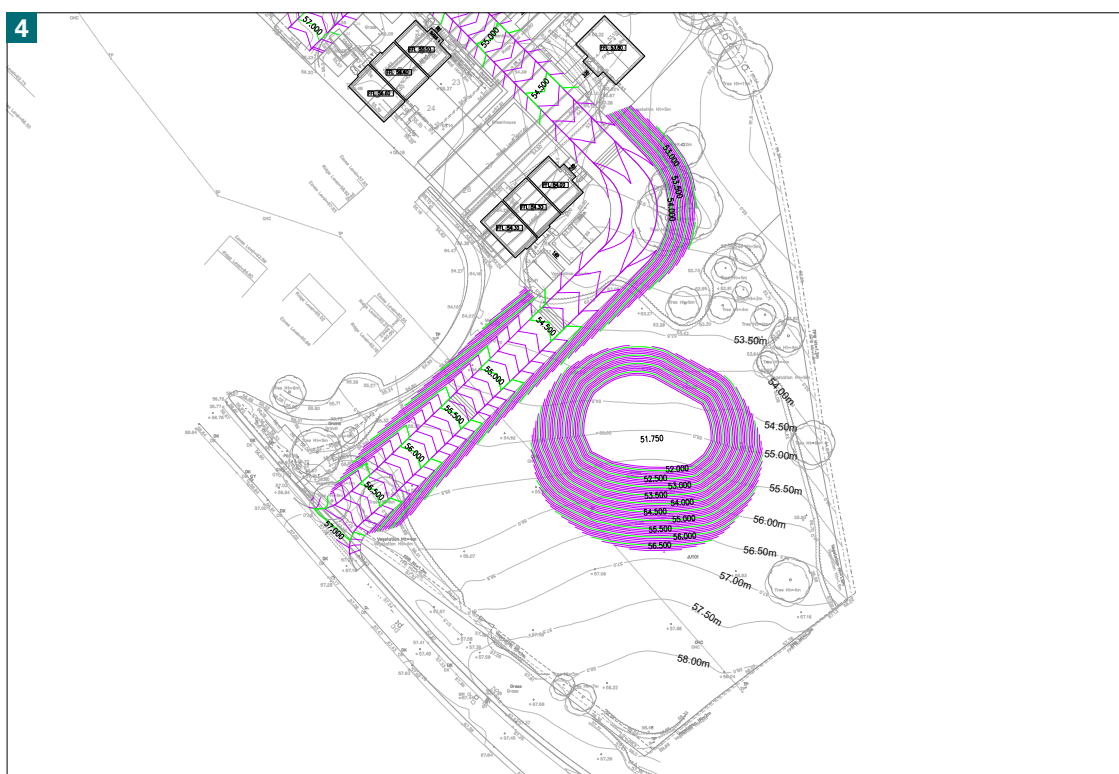
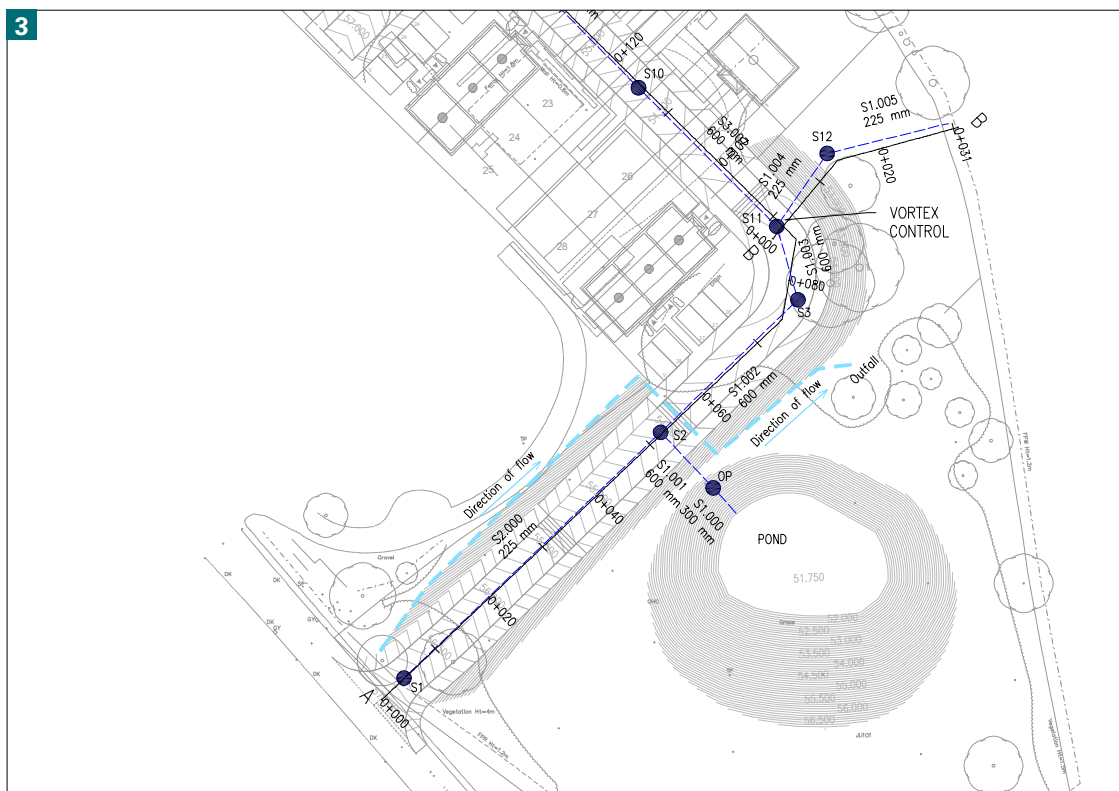
Is information provided at outline application adequate to assess an application?



Total answered: 63

3 & 4. Example of a 'bomb crater' SuDS pond submitted to a LLFA.

All surface water drainage is contained within increasingly large pipes, which then discharge into a pond at bottom of the site. Permanent water level is set at 3.25m (average) below existing adjacent ground level. A dangerous design with long, continuous gradients, and neither a 'shelf' nor barrier planting at the water line. The deep hole is visually inappropriate in any context, with no effort taken to integrate it within the broader landscape, despite there being adequate space to do so. This scheme was refused by the Planning Authority.



Summary of comments:

- Virtually all respondents commented that submissions are inadequate. This includes submissions which are lacking in sufficient detail, have poor/no calculations, where Flood Risk Assessment (FRA) are inadequate/too generic (e.g. only including river flooding), have no clear SuDS strategy, or where SuDS components are not adequately sized
- Developers tend to submit as little as possible, arguing that the drainage is too much detail for outline application stage
- Applications vary greatly in quality; at their worst some applications are just a 'red line' around the boundary of the site
- Many applications have no drainage information when submitted, meaning that it has to be specifically requested or a recommendation for refusal made
- Applicants ask for drainage to be conditioned
- References to specific SuDS components are not backed up by evidence that they have been considered in the site layout, or their feasibility has been assessed
- There is frequent use of oversized pipes as a simple approach, which is akin to traditional piped drainage but with more storage
- Little site investigation information supplied to justify infiltration (or not)
- Little or no information provided on maintenance
- Finally, some LLFAs suggested that LPAs should update their validation checklist to include all necessary drainage information, and that a small number of councils seem to have already done this or are thinking about it

However, just under half of authorities (49%) were positive that despite the inadequacies in the submitted information, the schemes could be adequately conditioned to ensure that the detailed application would follow the agreed principles. 41% felt that this could sometimes be achieved, but 10% were clear that even this couldn't be achieved.

Concerns were also voiced that this inadequacy at the outline stage made it far harder to ensure that good quality schemes were then delivered at the detailed application stage.

Summary of comments:

- There was concern that good conditions can be recommended, but can then be negotiated away by developers on viability grounds
- Lack of information at the outline stage can make it very difficult to condition
- Some of the lack of information (e.g. discharge rates/volumes) means that schemes may need to be redesigned to accommodate the SuDS spatial requirements at the next stage, therefore conditions cannot properly cover this
- A diagrammatic approach to the site layout, means that conditions can't address the need for proper site design to accommodate the SuDS, or that they are adequately sized.
- Standard conditions are often too generic and not easily adapted to cover drainage conditions, and allow an opt-out at the detailed stage
- Enforcement of conditions is weak and little feedback is given to LLFAs
- Very few authorities have developed a clear set of guidance and conditions, or are insistent on proper information at each stage

There is clearly a very real concern from the LLFAs that the process of delivering effective water management through SuDS can be steadily eroded as part of the planning process. Standard conditions are seen as overly generic and the lack of information at outline stage can make it difficult to recommend more technical conditions, which may not be relevant to the final site design. As the LLFA only respond when requested by the authorities, the implications of changes to a scheme in negotiations may not be appreciated by the planning department.

Changes to pre-commencement planning conditions as of October 2018 may also make this harder to accomplish, as councils will have less freedom to impose necessary conditions on a site. Equally, in the long-term, the changes may ensure that clearer justifications are provided for usual pre-commencement conditions for drainage and surface water management, and so encourage improved behaviour from all involved.

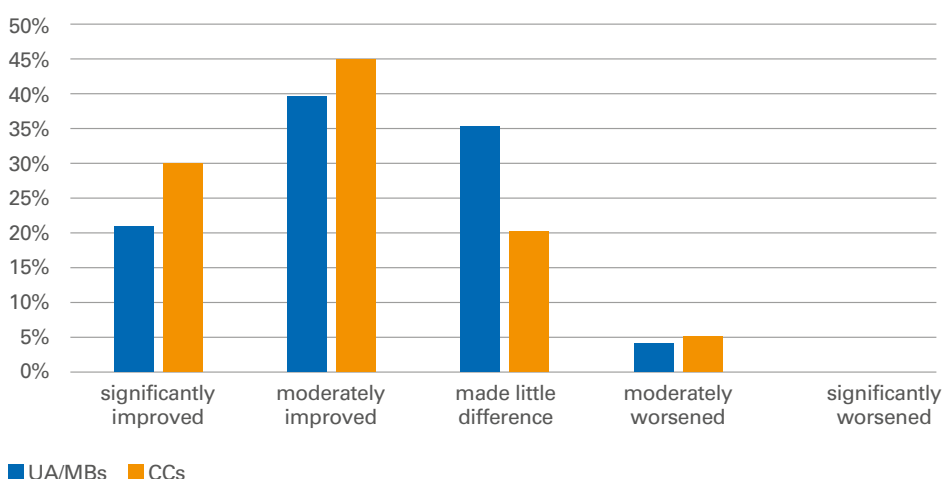
Delivering SuDS since April 2015

6.1 Surface water management since April 2015⁸

Half of County Councils felt that the 2015 changes had 'significantly' changed how they approached the management of surface water, compared to 38% of Unitary Authorities and Metropolitan/London Boroughs. 15% of all authorities felt there had been no real change in their approach.

For most, this change had been positive. Three quarters of Counties and 60% of Unitary/Boroughs felt the impact of the change had been to 'significantly or 'moderately' improve the management of surface water.

How have the changes in April 2015 impacted on the management of surface water?



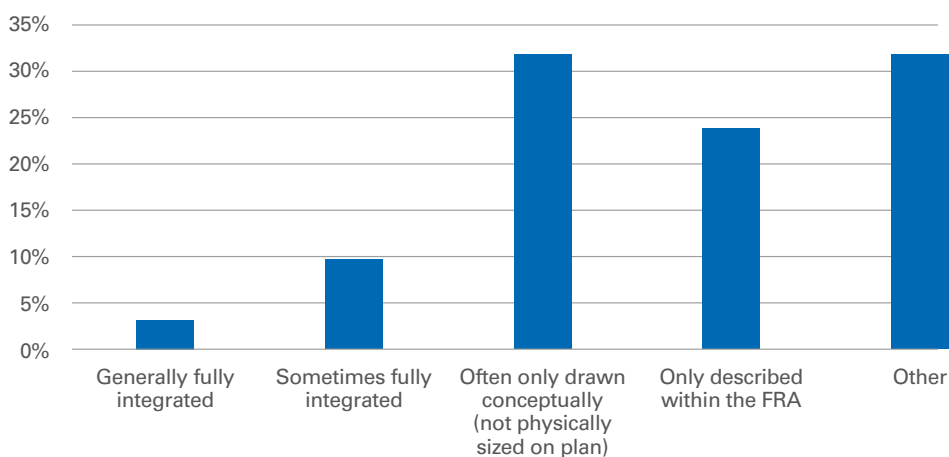
Total answered: 48 Unitary/Boroughs and 20 Counties

6.2 The extent of SuDS integration within spatial design

A fundamental aspect of SuDS is its integration within the spatial design of a site. However, the consistent response from LLFAs regarding the quality of schemes received and their success in delivering well integrated schemes is generally one of failure and poor quality.

Almost no LLFAs (0% Counties and 4% Unitary/Boroughs) felt that SuDS was generally well integrated within the design, and 19% Counties and 6% felt that it was sometimes well integrated. Two responses were most frequently given: firstly, that schemes were drawn indicatively, but not sized or worked through within the plan (38% Counties/30% Unitary/Boroughs); and secondly, that SuDS was only described within the Flood Risk Assessment, but not shown on the plans (19% Counties/26% Unitary/Boroughs).

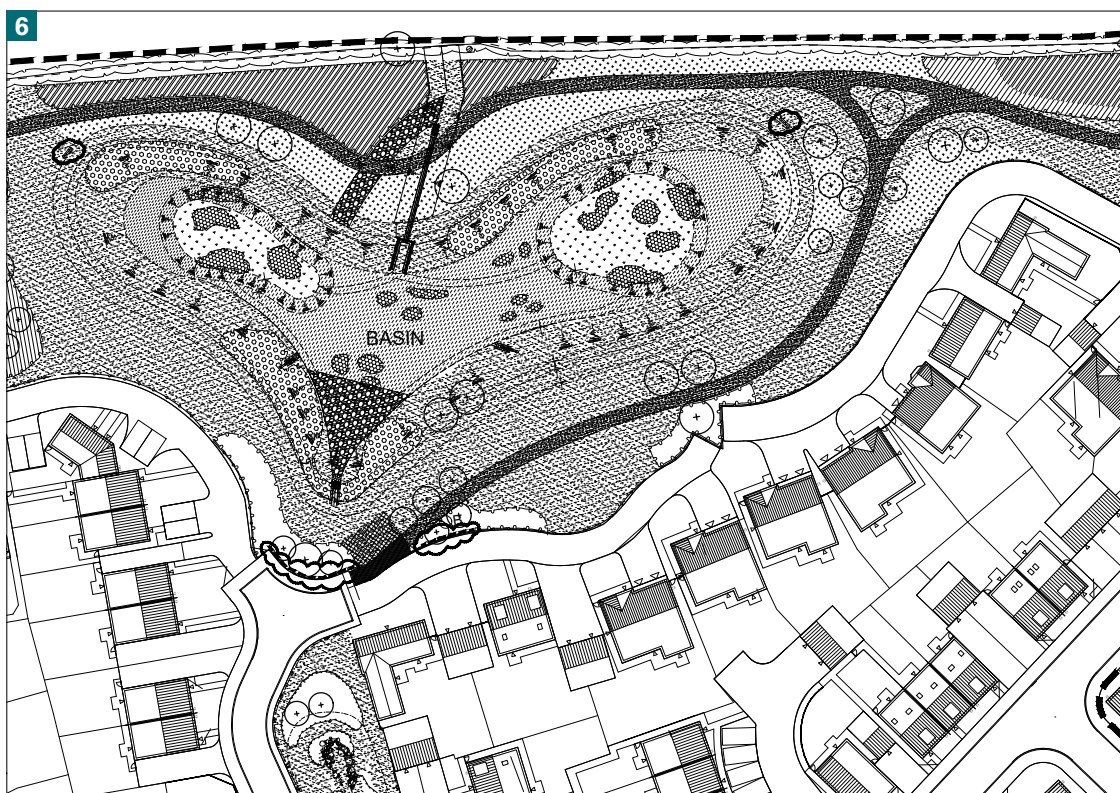
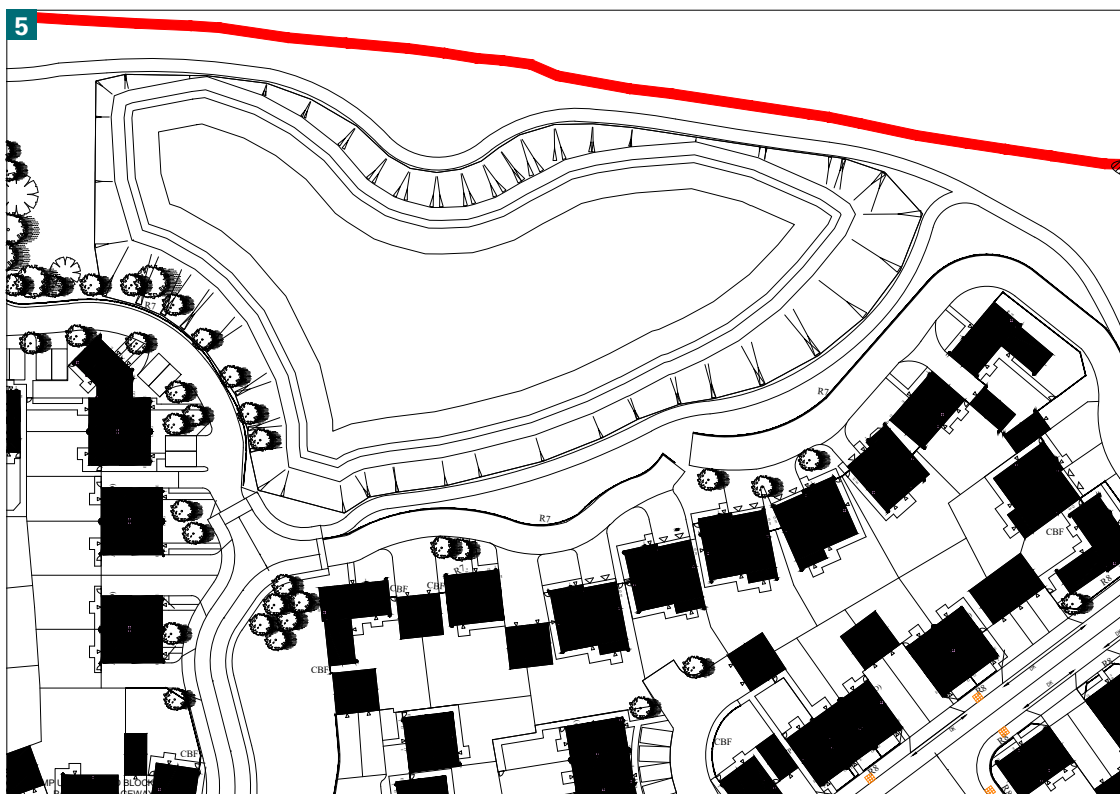
How well is the SuDS integrated within the spatial design of the site?



Total answered: 63

⁸April 2015 is when the Non-Statutory Technical Standards came into force

5 & 6. How a basic engineering proposal was redesigned as an attractive area of public open space. The first image depicts a simplistic engineering layout with continuous gradients that dominates the space, with little provision for amenity use. In the second image, the pond profiles have been changed, with paths and planting integrated as a part of the overall design. The original engineered drawing was rejected by the planning authority, while the revised scheme was accepted. The same approach was applied to two other ponds, and the swales leading down to them, all with no additional cost or land take.



Comments

- “It usually depends on the consultant’s stance/experience with SuDS design - if they’re experienced then the designs can be good.”
- “By the time a Full / Reserved Matters application is submitted, the site layout is fixed and any drainage is shoe-horned into available remaining space hence the design is often well short of what could otherwise have been included”
- “Typically some attenuation SUDS are included in the layout of major schemes however source control is poorly applied”
- “We ask for a SuDS design statement which challenges designers to integrate into the development. I have not read one response that demonstrates proper consideration. A SuDS design approach is just not being taken.”

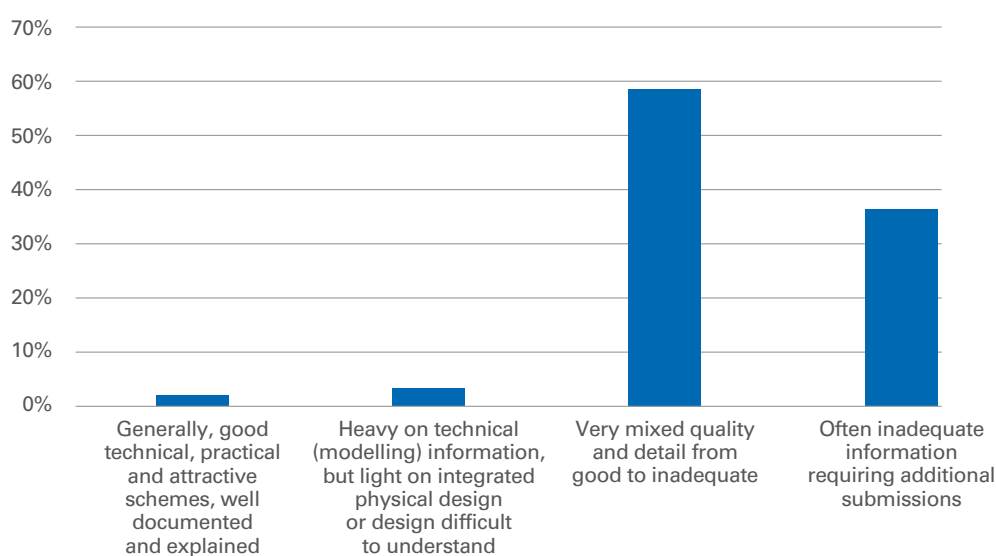
6.3 Compliance with SuDS good practice design guidance

The principles of SuDS best practice as described in The SuDS Manual is rarely used as the basis for schemes submitted to planning, with most lacking the amenity and biodiversity aspects in particular.

Summary of comments

- Developers are not committed to the principles of SuDS and unwilling to deliver more than just drainage.
- As such, some local authorities have been forced to act as ‘a designer’ in trying to promote better schemes through their intervention.
- Schemes are often model-based piped systems to a pond or tank, even when opportunities for above ground SuDS are available through landscape features.
- Despite SuDS design guidance available, LLFAs do not see many schemes integrating SuDS well into the site design and feel there is little to support them to contest designs which do not provide amenity or biodiversity.

What is your opinion of the schemes you are asked to review?



Total answered: 63

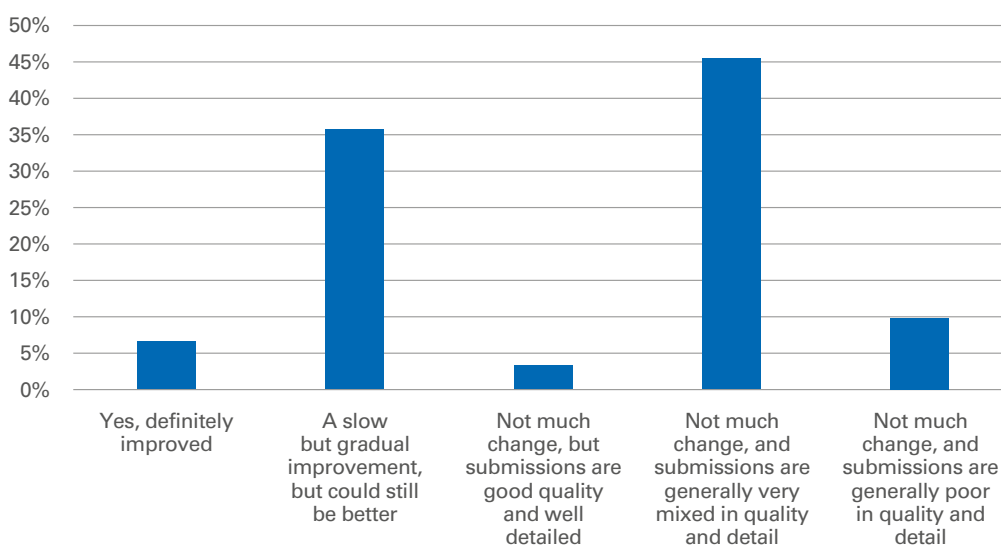
Only one Unitary Authority felt that they saw good technical, practical and attractive schemes that were well documented and explained, and very few (3%) felt that submitted schemes were heavy on technical matters but light on integrated physical design. Almost all authorities were split between those who felt that submissions were very mixed in quality from good to inadequate (59%), and those who felt submissions were just inadequate (37%).

6.3 Assessment of the quality of drainage submissions since April 2015

Most authorities (58%) do not feel there has been a change in the quality of information provided in submissions since April 2015. Of these authorities, 78% feel submissions are generally mixed in quality and detail.

However, 42% of authorities felt there had been a change, with 85% of these authorities (35% of all authorities) noting a slow but gradual improvement.

Has the quality of information provided in submissions improved since April 2015?



Total answered: 62

Comments:

- "There is no legislative/ policy driven support to require SUDS"
- "The concept of SuDS through planning is not working at all. It is confusing for both developers and planners."
- "There are still concerns over adoption which leads to the over use of over-sized pipes and not the full use of sustainable options and options which include biodiversity."
- "As designers are not approaching surface water in an integrated way they do not know how to make a proper case for their chosen solution."
- "Adoption and maintenance is the biggest issue, and I fear we will be left with a catalogue of un-maintained, poorly designed and built SuDS systems."

Note: One authority had held a successful Planning Advice workshop for local professional advisors and consultants who submit FRAs and surface water strategies in an effort to improve standards in submissions.

6.3 The basis for decisions by the LLFA when assessing SuDS proposals

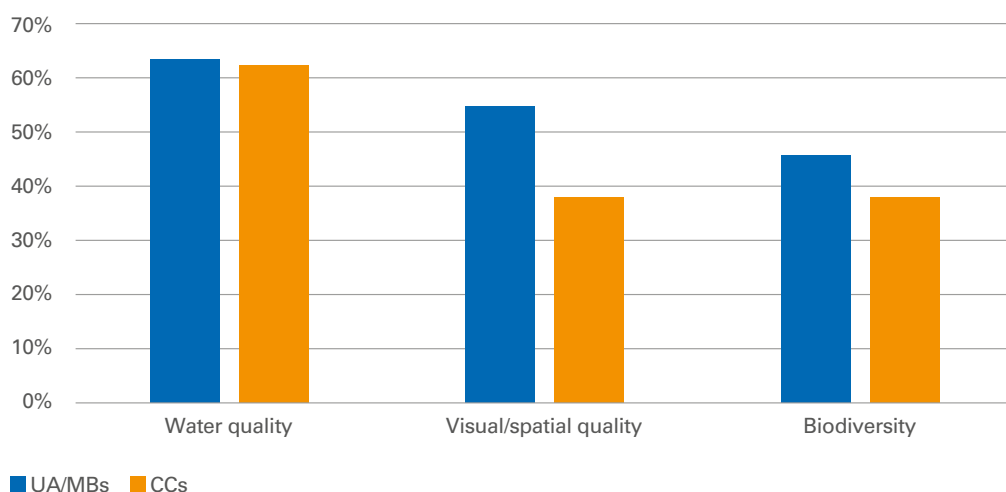
Over half the authorities (57%) base their decision on the NSTS or 'mainly' do so. A further 48% of authorities use the standards in part. Many cited use of The SuDS Manual and most also use other local guides and policies to assist them in assessing proposals and in promoting better schemes. However, some feel restricted in what they can insist upon, due to the brevity and simplicity of the NSTS.

Comments:

- "The non-statutory technical standards are poor in terms of cleansing, amenity and biodiversity."
- "We also have local standards, as the non-statutory technical standards are very general and are lacking in detail."
- "The SuDS Proposals should be in line with our own Council policies. Guidance on SuDS design is from the SuDS Manual."
- "Being in London we rely more heavily on the more stringent London plan and our own Local Plan."
- "Knowledge of the area and general suitability of the options play a part."

In terms of the other 3 pillars of SuDS (water quality, amenity and biodiversity), there was a significant difference in responses from the authorities for each of these, with water quality being well considered, but amenity and biodiversity less so. However, 69% Counties and 46% Unitary/Boroughs said that they would consider such factors 'always' or 'most of the time' where a site was considered sensitive relative to these issues.

LLFAs reporting the effect on each aspect 'strongly' or 'moderately' affects their decision



Total answered: 45-46 Unitary/Boroughs and 15-16 Counties)

Water quality: 98% of all authorities stated that they considered water quality, with 63% of all authorities confirming that this would influence their decision either strongly or moderately. Over half (56%) of all authorities would also consider water quality impacts even if they will not make the receiving water course poorer in quality, and a further 27% would do it sometimes.

Amenity: 78% Unitary/Boroughs and 47% Counties consider amenity. 54% Unitary/Boroughs and 38% Counties allow 'effect on visual / spatial quality' to influence their decision strongly or moderately, however, over 20% of all authorities would not do so because of the lack of statutory requirements.

Biodiversity: 78% Unitary/Boroughs and 40% Counties consider biodiversity, with 46% Unitary/Boroughs and 38% Counties allowing it to influence their decision strongly or moderately, however, 24% of Unitary/Boroughs and 31% Counties would not do so because there is no statutory requirement.

7. An over-engineered and potentially dangerous SuDS feature, with deep water and vertical concrete sides. The adjacent area has adequate space for more sympathetic integration.

8. A poorly designed swale. Unnecessarily steep slopes create both a maintenance and safety hazard. This has led to the swale being fenced in, even though there is adequate space to provide shallower gradients. Planting and integration within the site's design could easily have been achieved.

9. A swale well integrated within the site's design, providing an attractive environment with appropriate gradients, use of hard materials and planting.

Summary of comments:

- A number of LLFAs commented that generally they do not see their role as encompassing the impacts on water quality, as it is not their statutory duty and therefore does not fall within their remit
- A few do take a positive role in encouraging a more holistic approach and make appropriate comments to the LPA, whereas others see this as specifically the role of the LPA
- A number cited their concern that they must stick to their statutory duty in case they needed to defend their recommendation at Inquiry (where broader based comments would be seen as outside their remit)
- Some (minor) concern that the EA should, but doesn't always comment on water quality



Issues around adoption and maintenance

7.1 The current context

At present there is no automatic path for the adoption of SuDS, although local authorities have the ability to do so. Water companies, through their umbrella organisation Water UK, have updated Sewers for Adoption, which sets out the standards and requirements for them to adopt SuDS schemes, although this would not in practice cover all SuDS components. Furthermore, water companies are not currently required to adopt sites; the changes to Sewers for Adoption purely provides a route for doing so.

The situation over SuDS adoption was considered by all respondents as the most difficult to resolve, and is seen as having a significant effect on how SuDS are designed.

It must be noted that the problem of adoption primarily affects housing sites or highways land. Where developments are designed for the land owner/future occupier, then they automatically manage and maintain their sites, including any SuDS on completion.

7.2 Considerations around adoption in principle

Only five authorities positively said that they would adopt SuDS, with a further 31% County Councils and 38% Unitary Authorities and Metropolitan/London Boroughs saying they would adopt some SuDS components. However, 56% of all authorities clearly said they would not adopt SuDS.

Almost a third (30%) of authorities stated that Districts and Boroughs within their County had adopted SuDS (for the period April 2015 to July 2017). The numbers of SuDS that had been adopted (whether known or guessed at) totalled no more than 30 sites, but there was little certainty over numbers.

Most authorities (65%) are not involved in adopting SuDS. This sits almost exclusively with the Highways Department (reflecting the fact that many authorities only adopt highways schemes). A few Unitary/Boroughs said that where the adopted site is Public Open Space, then it may be Parks or the Countryside and Leisure Department who adopt.

Where adoptions are happening, these are split between housing developments and highways land. A few authorities have adopted public open space, and Unitary/Boroughs have also adopted other land uses including car parks, retail sites and industrial land. However, these responses have to be considered in light of relatively few authorities responding to these questions, and the small numbers of sites involved.

7.3 Considerations around the adoption of individual components

Just over 10% of authorities provide guidance on the type of SuDS they will adopt, with 20% saying they are in the process of producing such guidance. However, almost the same number have a range of guidance in which the adoption of SuDS is discussed in some form or other - generally to confirm that they won't adopt, or to limit adoption to highways. This ranges from design guides to SPDs or local policy.

Most commonly adopted SuDS

- Swales
- Retention basins (i.e., ponds/lakes)
- Detention basins
- Permeable/pervious paving

Roughly a quarter of authorities stated SuDS components like filter strips, filter drains and infiltration systems had been adopted. SuDS tree pits and wetlands had been adopted the least (and building related SuDS such as rainwater harvesting and green roofs hadn't been adopted at all).

However, authorities had clear views on the type of SuDS component they would not adopt.

SuDS components that local authorities will not adopt

- >60% Rainwater harvesting systems or green roofs (as part of buildings)
- >50% Geocellular storage tanks
- >40% Attenuation storage tanks, oversized pipes or permeable/pervious paving
- >30% Bioretention systems
- >20% Infiltration systems, filter strips, filter drains, SuDS tree pits, detention basins, ponds and lakes, wetlands
- <20% Swales

7.4 Barriers to adoption (in principle and components)

Counties responses relate mainly to Council policy (overall), and the fact that most adoptions relate to highways, and therefore the broad range of components are not related to highway drainage.

Unitary/Borough responses were broader ranging, repeating the policy and highways issues, but also citing funding issues for maintenance, the difficulty of maintaining underground systems, the potential long-term liability, and the lack of any statutory requirement to adopt.

Bearing in mind adoption/long term maintenance as an issue, authorities were asked which approach to adoption they would prefer. The majority (53%) of Unitary/Boroughs would prefer a Local Authority funded service - if this could be ring-fenced. Counties were split between Water and Sewerage Companies (31%) and a ring-fenced Local Authority funded services (25%).



Additional comments

Respondents were asked to give detail about three things they would like to change about the current framework for SuDS delivery, covering policy, assessment, adoption, enforcement and skills. We include these suggestions below, edited only for clarity:

8.1 Policy

Respondents suggested a number of ways policy could be improved:

- Making SuDS requirements statutory and covering minor schemes
- Implementation of Schedule 3 of the Flood and Water Management Act 2010 (FWMA) – thereby establishing SuDS Approving Bodies (SABs) within LPAs, which must approve all new drainage schemes, requiring that they meet national standards
- More emphasis on ‘true/green’ SuDS and those that deliver multiple benefits, i.e. water quality, amenity, biodiversity
- Removal of the right to connect to public sewers
- More power to create regional policies and standards

8.2 Assessment and approval

Respondents suggested a number of ways assessment and approval could be improved:

- Enforced requirement for information provided at initial planning stages and applications refused without adequate information
- Developing/bringing back the SuDS Approving Bodies (SAB) approach (see Policy section above)
- Bringing LLFAs and developers together earlier on in the design/planning process - potentially through pre-app discussions
- Requirement for Local Authorities to discuss or report back where LLFA advice has not been followed
- Right to refuse applications on water quality, amenity and biodiversity grounds

8.3 Adoption and maintenance

Respondents suggested a number of ways adoption and maintenance could be improved:

- A single authority for adoption and maintenance
- Respondents suggested the appropriate body they thought should adopt SuDS – these comments were split between the LLFA, the Local Authority and the water companies
- Reducing the risk of ‘orphan’ SuDS if maintenance authority goes into administration
- Funding and standards for maintenance

8.4 Enforcement

Respondents identified a number of ways enforcement could be improved:

- A national approach to the inspection of SuDS with a nominated inspection body
- Introduction of processes to ensure SuDS systems are properly constructed

8.5 Skills and capacity

Respondents identified a number of ways skills and capacity could be improved:

- Clear guidance on SuDS submission requirements, especially for smaller developers
- More funding of LLFAs to ensure adequate capacity



Conclusion and recommendations

This research revealed underlying failures within the current system. These issues undermine the ability of SuDS to fulfil their potential in making a major contribution to surface water flood management; as well as improving water quality, amenity and biodiversity, enhancing human health and wellbeing; creating attractive places to live; and other contributions (such as climate change and air quality).

The lack of coherent government-backed guidance or standards at the national level has created a legacy of inconsistency in the way in which SuDS is dealt with in policy and practice throughout the country. The variability in policy approach from comprehensive to non-existent will not ensure that surface water is well managed and is likely to make some areas more prone to surface water flooding in the future. This variability does not allow larger developers who work in different areas of the country to easily understand the standards and requirements that will be brought to bear in determining their planning applications.

Despite the variability of outcomes in delivering SuDS, it is evident that whilst a significant number of authorities have a clear and structured approach to SuDS delivery through planning, an equally significant percentage of authorities do not. The inadequacy of policy is reflected in authorities who are either not at an appropriate stage in the planning cycle, or who haven't addressed the issue, or who do not feel it has sufficient importance for them at this point.

We have identified some recommendations for change (below) that came out of this consultation. There is a need to prioritise simple changes that would address the lack of clear, consistent and effective policy for SuDS. However real change also requires a new way of thinking, and unless there is a change in emphasis, the current approach to policy for SuDS will never deliver consistent and positive improvements to surface water management in development. Foremost of all, we must counter the belief that changes to SuDS policy would prevent or significantly delay the delivery of housing (in the numbers desired); and the belief that short-term economic priorities outweigh the need for long-term planning and adaptation to the changing weather patterns that create surface water flooding.

9.1 Recommendations from those surveyed

These recommendations for future action are taken from the submitted views of those that responded to our survey. They are not intended to represent the universal views of all respondents, nor the formally-agreed position of the organisations involved in compiling this report.

- In principle all development should incorporate sustainable drainage which takes a multifunctional approach. Development requiring planning permission should be expected to include SuDS unless there is clear and proportionate evidence that such features are unfeasible or inappropriate.
- The NSTS need to be amended so that they positively encourage, rather than hinder the delivery of water quality, amenity, and biodiversity through SuDS
- National Planning Practice Guidance should emphasize more strongly the principles of SuDS in related chapters: e.g. Water Quality, Natural Environment, Design
- Changes to the NSTS and the Planning Policy Practice Guidance should respond to the inclusion of 'multi-functionality' as a parameter for SuDS design within the NPPF, as a fundamental part of promoting more sustainable integrated design.
- LLFAs and LPAs (where they are different bodies) should jointly review their policy base to ensure they are coordinated and appropriate for delivering SuDS. SPDs can be developed if effective policy is not in place and/or the Councils are not at an appropriate point in the Local Plan development cycle.
- The importance of effective pre-application consultation should be recognised, and made a planning requirement for all major development, to enable SuDS (along with other site requirements) to be effectively integrated within development from the outset. The Council's advice at the pre-app stage can then inform the LLFA/Planning Officer's assessment of a scheme within their report and recommendation.
- Clear submission requirements for major and minor developments, reflecting their location in flood zones (whether fluvial or pluvial) or Critical Drainage Areas should be developed for both outline and detailed planning submissions. These should form separate checklists on the Planning Portal.
- All changes to scheme designs made during the planning process that affect drainage should be referred to the LLFA for comment.
- Government should clarify the role of the LLFAs to confirm that it encompasses all aspects of SuDS, not just quantity.
- Future proposals to embed 'environmental net gain' metrics in the planning system should ensure that there is read-across to the SuDS principles, to ensure that they enable a multifunctional approach to SuDS design
- SuDS are a tool to deliver national water quality targets currently set out in the Water Framework Directive. These targets must be retained in UK law after Brexit, and high ambitions maintained.
- Alternative funding models for councils to establish independent maintenance organisations with a remit to adopt and manage public open space and SuDS should be evaluated and considered against other available options, to create opportunities for both communities and local authorities. These could include granting endowment funding for the establishment of trusts, following the model of the Parks Trusts set up to manage the land-holdings within the early New Towns, such as Milton Keynes.



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