



BROOKBANKS

SuDS Challenges and Solutions: Residential Developments in Wales

Published in collaboration with

HBF Home
Builders
Federation

Cymru | Wales

Introduction

The Home Builders Federation is the principal trade association for the home building industry in England and Wales. HBF's membership of more than 400 companies builds most of the market sales of homes completed in England and Wales, encompassing private developers and Registered Providers. The majority of HBF's private home builder members are small or medium-sized companies.

SuDS became mandatory in Wales in 2019 following the enactment of Schedule 3 of the Flood and Water Management Act 2010. HBF worked closely with the Welsh Government both in the lead up to implementation and following. In 2023, ARUP carried out a planned review for the Welsh Government, which identified several areas in need of improvement. HBF continued to work with Welsh Government, SAB officers and other key stakeholders as an attendee of the Welsh Government-run SuDS Community of Practise (COP). Since the 2023 report, only limited progress has been made on improving the system, and SuDS remains one of the main reasons cited by homebuilders for delays in the delivery of new homes. In view of the new Welsh Government and the potential opportunity for a fresh look at the SuDS process, HBF have worked with Brookbanks to produce this report, looking at some of the key issues facing the housebuilding industry and providing solutions to help enable the successful delivery of new homes in Wales.

Image supplied by Stride Treglown

Practical Design Guidance

Design guidance and parameters will always be subject to revision and change through statutory and regulatory processes, and in some cases, bespoke requirements because of a unique site circumstances or risk.

The following practical design guidance aims to give applicants a steer in the right direction, balancing risk and expectation against an often liquid masterplan with lots of moving parts still to be confirmed.

Peak Rate (Q) Restriction

To be no greater than greenfield Q1 in both greenfield and brownfield sites.

Peak Volume

To be no greater than the existing greenfield 360-minutes 100-year event in both greenfield and brownfield sites.

Coefficient (Cv)

To be 1 in both summer and winter profiles.

Rainfall

No cap on rainfall, use the design tool maximum.

Design Events

No flooding in the critical 100-year event plus climate change allowance. Exceedance event simulation to include critical 1:200-year and 1:1000-year events as a minimum.

Design Storms

Use a full suite of design storms between 15 and 10,080 minutes (7 days).

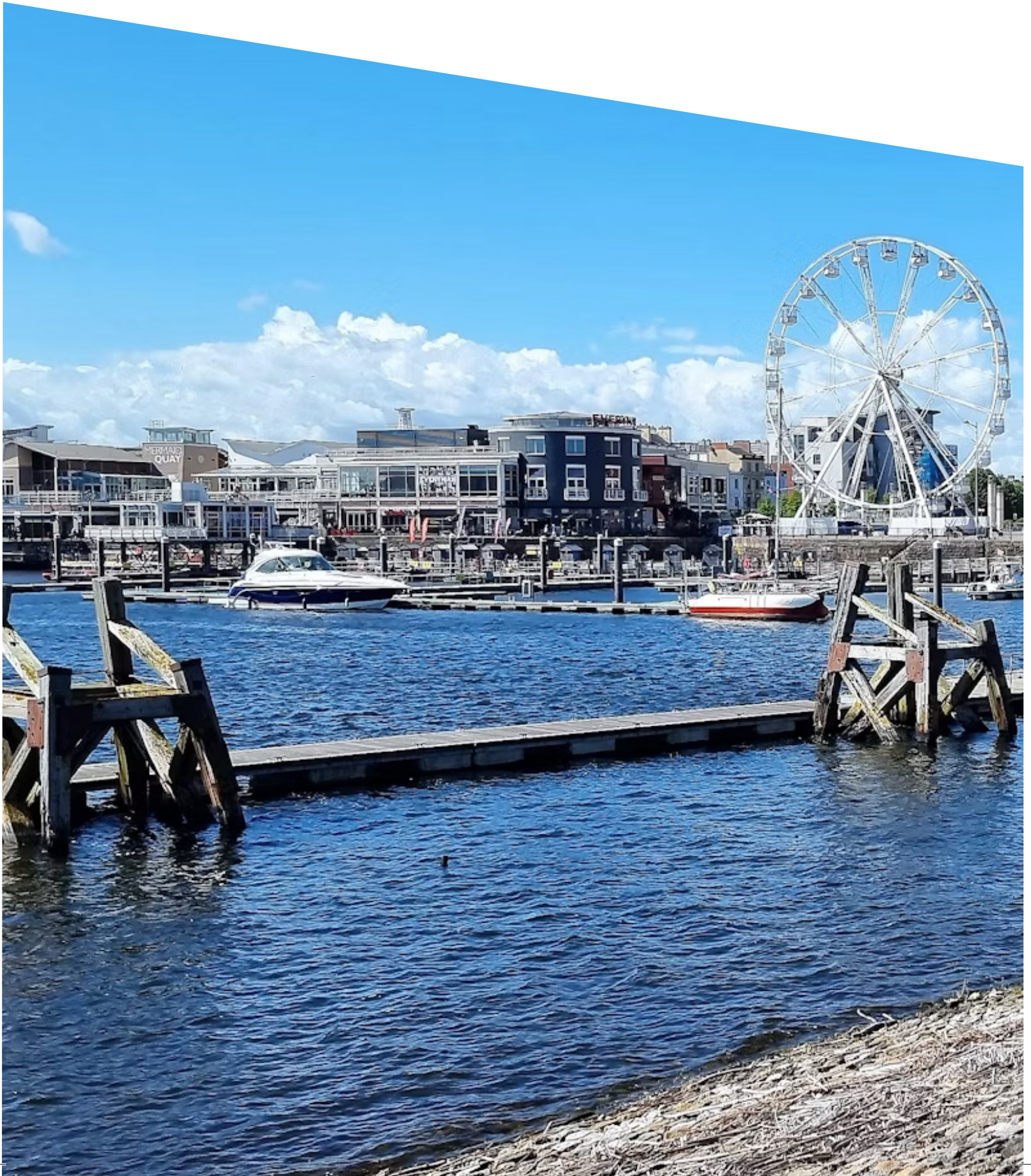
Urban Creep

Use 10% as a minimum.

Climate Change

Climate change allowance is to be in line with Welsh Government standards, but can be subject to change in agreement with the SAB. A minimum climate change allowance of 40% is recommended to be used in early designs.

Where are we?



Wales occupies a distinct position within the UK in its approach to sustainable surface water management. It remains the only UK nation where SuDS are subject to a standalone consenting regime, administered by SuDS Approval Bodies within local authorities.

The intent behind this approach is sound. Traditional drainage techniques have contributed to increased flood risk, water pollution and long-term maintenance liabilities. Statutory SuDS requirements provide a framework to address those issues, but the delivery process now needs to mature.

Through previous discussions, there appears to be strong cross-sector support for the principles behind statutory SuDS in Wales. The shared objective is not to dilute standards, but to improve delivery.



Key Challenges

From multi-stakeholder events to individual discussions between various stakeholders (private developers/SAB officers/designers, etc.), there is unanimous alignment on the challenges facing SuDS delivery, even where perspectives differed on the causes and workable solutions, we can do better.

Design

Additional guidance is needed that focuses on practical, consistent design, placement and sustainability and benefit of SuDS, enabling SuDS systems to be designed for usability and maintainability first, not just statutory compliance with standards.

Consistency

Process and governance issues highlight a misalignment between the planning process and SAB application process, particularly at the pre-application stage.

Whilst early engagement is seen as critical across the board, it is essential that a streamlined approach is adopted to provide clearer guidance, better alignment between stakeholders within the development process and improve communication to applicants. It is recognised that this would ease current frustrations with the SAB regime, improve service level and expectations and reduce delay, without undermining regulatory objectives.

Commuted Sums

There is broad acceptance that SuDS maintenance must be properly funded over the lifetime of a development. However, the absence of a consistent methodology has created significant uncertainty for developers, housing associations and funders. In an already challenging market, this can affect viability, particularly as the figure only becomes known at the end of the approval process.

Recommendations

Recommendations and solutions offered below stem from discussions with the HBF, its members, and the SAB Society and reflect actions that have been considered in discussion to be both realistic and impactful. Whilst we note the positive progress that the Welsh Government update to the Statutory Standards in March 2026 has made, there is opportunity to provide stronger direction on interpretation and application.

The following actions would materially improve certainty, reduce delay, and support better SuDS outcomes without weakening the statutory framework.

- Consolidate and update statutory guidance into a single, clear document with stronger direction on interpretation and application. More focus is to be given to a practical design guide for developers to follow to ensure SuDS can be designed and constructed for real-world usability and maintainability rather than only to comply with statutory guidance.
- Develop a national framework for calculating commuted sums, including transparent methodologies and agreed assumptions. This could include alignment between legal fees, commuted sums and inspection fees.
- Investment in skills and training, and an increase in resources to support SABs to promote consistency across local authorities and SuDS Approval Bodies.
- Early engagement. Engaging with the SAB at the earliest possible stage to focus on key principles and viability before layouts are fixed. Where this takes place, the advice given should not change during the application stage.

Types of SuDS and design philosophies specifically for housing developments

It is broadly accepted that SuDS is not a one-size-fits-all solution, and each site will have its own unique challenges to which there may be a bespoke SuDS solution.

Many sites share the same challenges, and the benefit of a cookie-cutter style approach to sustainable drainage is of huge benefit to tie down important principles, ensure compliance and reduce risk at later stages in the project, while preserving the importance of technical compliance or undermining regulatory objectives.

Within the context of a housing development, some SuDS techniques may present unforeseen problems, for example:

- Prohibitive costs of importing material to create batters and impermeable membranes to line features.
- Small, isolated and peppered SuDS features such as individual plot rain gardens or single parking space permeable paving present little benefit in terms of capacity and interception potential. They tend to be spatially inefficient and present large constraints in terms of maintenance.
- Prohibitive cost and risk of green roof against traditional pitched roof construction.

Standardising SuDS techniques and principles for use in housing developments will enable layouts to be fixed earlier, with increased confidence in the design's practicality, whilst achieving technical compliance earlier, leading to a greater opportunity for success.

Standardised SuDS and Principles



Image supplied by RCTCBC

Permeable Paving

Limit the use of permeable paving surfaces to larger areas. Communal car parks, private driveways, and roads are good candidates for the use of permeable paving. Their larger extents and ease of accessibility, by their nature, mean a greater potential for interception, surface water storage compliance, and reduced maintenance risks.

Permeable surfaces are not limited to concrete block paving. Permeable asphalt and permeable concrete products are widely available and used, with many local authorities throughout the UK accepting these construction methods.

Infiltration and Detention Basins

Strategically locate large infiltration and detention features in one area within a site. Creating an impactful Gateway or focal point feature within a development not only provides significant placemaking benefits but also improves scheme sustainability by reducing maintenance risks and liability.

This provides more certainty in the long term regarding the delivery of the amenity, plus biodiversity and water quality benefits that the National Standards seek to achieve.



Image supplied by Stride Treglown

Swales and Rain Gardens



Use of larger conveyance swales in public open space and adjacent to roads. Swales provide storage, treatment and conveyance of surface water. Swales can still support source control principles where they collect, treat and convey runoff close to the source. They also provide better maintenance access, improve attenuation potential, and can still be considered source control whilst reaping the benefits of reduced maintenance risk and greater efficiency in terms of interception and attenuation capability.



Images supplied by Welsh HBF members

Green Roofs

Green roofs are unlikely to be viable across most standard housing developments due to cost, buildability and long-term maintenance risk.

They may, however, have a role on larger apartment buildings where they can be designed and maintained with clear responsibility.



Soakaways

Traditional SuDS methods, such as house soakaways, are well understood and simple to maintain, even for individual homeowners. Using these traditional SuDS methods, where infiltration is permitted, is an efficient use of space and limits risk with complicated maintenance regimes.

In some circumstances, with proper consideration of ground conditions and construction details, we can design and utilise traditional soakaways within 5 meters of a structure, where sites suffer from spatial constraints.



Non-Technical Recommendations

Below are some non-technical recommendations that could ease delays and complications with the SAB approval process, particularly post-design that are currently being discussed between the HBF and Welsh Government.

Billing/Charging

Currently, homeowners can benefit from a surface water rebate, where it can be demonstrated that SuDS features exist and do not enter the sewerage system. Could an opportunity be considered by the Welsh Government whereby a balance/more equitable value in the cost of commuted sums to home builders be reduced, given the opportunity for LPA's to charge the homeowner the equivalent sum of the surface water rebate value via council tax for the offset value, they would otherwise have received.

Timeframes/Costs

There is an opportunity to standardise SAB agreements through consistent templates, legal agreements, and clearly defined project stages, improving transparency and consistency in the application of fees and financial contributions. Could consideration be given to reduce commuted sums payable by housebuilders, with an equivalent contribution derived from the surface water drainage rebate received from homeowners where runoff is managed through a SuDS system rather than discharged to the DCWW network? Is there an opportunity for commuted sum payments to be linked to agreed project milestones, similar to staged payment arrangements used for Section 106 agreements providing a more equitable process through to adoption?

Reuse of Site Won Material

Explore the reuse of site won materials in greater detail. Looking at how material is stored and how that impacts its future use. Could it be mixed to improve its qualities (like infiltration potential and hydraulic conductivity)? This would result in less non-native material having to be imported, reducing cost and time risks.

Overview

If SuDS are planned early, designed simply, and adoption is clear, they: improve planning outcomes, reduce drainage costs, minimise long-term risk, and add value to housing schemes.

Critical challenges at the moment are:

- **Early Planning** – Uncertainty around timescales, costs, and design expectations.
- **Simplicity in design** – Inconsistent interpretation of regulatory guidance.
- **Consistent adoption parameters** – Unknown and wide-ranging commuted sums, and the reality of maintaining ‘on plot’ SuDS is not clear.

Priority recommendations to improve delivery without undermining regulatory objectives:

- **Early Planning** - Better-resourced SABS would help with more timely communication regarding pre-application submissions and pre-submission advice.
- **Simplicity in design** - Practical design guidance based on real-world experience specific to estate and high-density house building.
- **Consistent adoption parameters** - Consistent, transparent and national approach to commuted sums.
- **The SAB Society** - Engagement with the recently formed SAB Society and their key opportunity in encouraging continued progress.

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This report is available digitally
and in Welsh via the HBF website.



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