



**A** stormy UK autumn, including the joint sixth wettest October on record according to the Met Office, has highlighted the importance of effective drainage on new build developments. Further concentrating minds is the fact this was not a one off – extreme weather events are becoming more common as climate change deepens.

Managing excessive stormwater is an increasingly pressing concern. "However, of equal importance for housebuilders is the question of how to fulfil the requirements for stormwater run-off in the most efficient and cost-effective manner," says Mark Stanway, founding director of drainage expert Aquaspira.

Housebuilders tend to incorporate storage requirements in large ponds, swales and below ground tanks. But where this is not possible, says Stanway, they need to look beneath an estate's roads and pavements. "With innovative large diameter pipe and integrated access systems, this valuable space can be utilised to the full, maximising the availability of land for additional properties."

By exchanging conventional concrete pipes and large manholes for the composite steel reinforced pipes and integrated access systems that Aquaspira specialises in, water companies

**Drainfast's MuckStopper system is designed to shield drains from the infiltration of silt, rubble and debris during construction projects**

can reduce the carbon emissions associated with drainage installation by more than 50%, adds Stanway.

#### SuDS

As rainfall events become more intense, regulations are tightening to ensure housebuilders rise to the challenge. For example, Benjamin Birkhead, paving design technician at Marshalls, points out that in January 2023, the government announced plans to mandate sustainable drainage systems (SuDS) for new developments in England from 2024 through the enforcement of Schedule 3 of the Flood and Water

Management Act of 2010.

"With the implementation of Schedule 3, there will be national standards for the design, construction, operation and maintenance of SuDS systems and a framework for approving and adopting these systems," he says.

Marshalls can support housebuilders to both meet standards and implement effective solutions, says Birkhead. "We offer an indemnified and warrantied SuDS design, engineered using a deep understanding of local rainfall and the structural requirements of an urban site."

Beyond compliance with legislation, applying innovative and effective flood  
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**Chris Windle looks at the importance of below ground drainage systems in tackling climate change and satisfying upcoming regulations. He also considers how recent weather events and the market situation have influenced the groundworks needs of housebuilders**

# From the ground up





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mitigation measures helps housebuilders to make more land usable in a fast and efficient way. "Marshalls' perfect manholes are an example of this – an offsite manufactured solution which can be simply dropped in to place," Birkhead adds.

Richard Eddy, category manager of underground and utilities at Polypipe Building Products, says new legislation and Ofwat's new Code for Adoption guidance which came into force in 2021, are concentrating minds in the industry. "Understanding and abiding by changing regulations around sustainable drainage has been a massive focus for the industry over the last couple of years."

Polypipe is, adds Eddy, in a strong position to help housebuilders navigate new standards.

"As a manufacturer we can provide in-depth, and digitally accessible, technical and

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**Hydro International says storage tanks such as its Stormbloc Extra are strong and robust enough to be located below areas with potential heavy loads**

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## The HBF Future Talent Conference will be returning in March 2024 to Wyboston Lakes for another year.

This 2 day residential event remains HBF's main event each year to bring together, trainees, graduates and apprentices with ambition and aspiration to progress their careers within the home building industry.

This interactive conference programme aims to provide learning insights on the main issues and changes for the industry from a national perspective that will enhance the delegates' knowledge and understanding as they develop their careers.

Keynote speakers and expert panellists across the two days include Cathryn Greville, Supply Chain Sustainability School, Charlotte Edwards (@accidentalfemaledeveloper) and Paul Harrison at Lexington Communications.

Interactive workshops and group project activities also take place with hosts including Rianna Fry and Rachel Danemann from HBF and Sophie Coyle from SCSS.

For full details and the opportunity to book, please visit [www.house-builder.co.uk](http://www.house-builder.co.uk)

Contact the events team for more information:  
[events@house-builder.co.uk](mailto:events@house-builder.co.uk) or via telephone 0207 960 1646



The voice of the home  
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performance data to help housebuilders make the right decisions and comply with current legislation."

Polypipe's technical team is on hand to collaborate from the early stages of a project to ensure it runs smoothly. "We provide support from planning and design, through to project completion, and beyond. This means that housebuilders and developers can rest assured that their plumbing, water, heating and sewage systems will meet the project criteria and standards laid out in the current legislation."

Ben Puddy, product manager at Hydro International, says: "It's a balancing act to



**Cordek specialises in heave protection solutions, offering standard and bespoke protective measures**

Stuart Crisp, UK manager of advanced drainage systems at ADS, says impending legislation will be a game-changer for the industry's approach to water quality. In addition to preventing sewage overflows, SuDS will need to remove pollutants from surface water.

"Water quality will be legislated, in addition to water quantity, which in England has not historically been given equal attention. This aspect of SuDS may require upskilling in readiness for implementation of Schedule 3."

ADS provides CPD seminars and SuDS training to highlight the anticipated changes and the solutions available. This includes the ADS StormTech system, which has a built-in



**In challenging market conditions, groundworks companies and developers need to work collaboratively, says Tamdown**

### Ground working together

In challenging market conditions, groundworks companies and developers need to work collaboratively to maximise efficiency on site, says Tamdown estimating director Anthony Davis.

Tamdown achieves this by proactively communicating and sharing ideas throughout the lifecycle of all projects. "We work with our customers to plan labour and material requirements to make these as efficient as possible. By increasing efficiency in these areas developers can save money and prevent waste. For example, by preventing the double handling of materials or part loads and helping to encourage stable and consistent labour

and plant on sites."

With uncertainty in the market, housebuilders are adopting a more cautious approach to starting on site, says Davis. But, he adds, planning is still the biggest obstacle. "For housing and groundworks output to improve we will need to see a shift in the planning process and how it is conducted to begin generating new housing for the benefit of communities and the economy."

On the plus side, the reduced pace of building in recent months has, says Davis, given groundworkers and developers additional time to consider the most effective materials to use and how to deliver them efficiently, at the right cost.

meet environmental, water quality, amenity and flood prevention objectives and still make a development profitable." He points out that, alongside SuDS legislation, there are requirements for nutrient neutrality and biodiversity net gain to contend with.

"Many environmental improvements can be achieved through the use of natural SuDS techniques. However, these are generally constructed at ground level and, if a large volume of water is needed to be stored, they can be land hungry, taking up space that could be used for housing."

Puddy recommends using a mixture of natural and below ground solutions to cover all bases. "Selecting the right flow control to limit runoff from a development is essential," he says. For example, the Hydro-

Brake Optimum provides water quantity management, reducing the land needed for storage ponds or detention basins.

He explains that a below ground storage tank can be built under amenities to reduce the land needed to accommodate them. "Storage tanks such as Stormbloc Extra are strong and robust enough that they can even be located below areas with potential heavy loads such as residential roads, pavement and parking areas."

### Water quality

Below ground solutions also play their part in ensuring water quality, says Puddy. "A smart stormwater treatment system such as the Downstream Defender Select sited upstream of a pond, can provide very efficient pre-treatment, removing sediments, litter and hydrocarbons."

water quality treatment device – the Isolator Row – which has recently been added to British Water's list of assessed surface water treatment devices.

The effectiveness of any system can be compromised by debris entering inspection chambers, manholes and road gullies during the construction process, says Mark Chambers, marketing manager at Drainfast. It can also lead to contaminated water entering watercourses.

To guard against this, Drainfast has launched the MuckStopper system. "It's designed to shield drains from the infiltration of silt, rubble and debris during construction projects," explains Chambers.

The system combines a range of products tailored to different access points within drainage systems and reduces the need

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The ADS StormTech system has a built-in water quality treatment device

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for people to enter and inspect confined spaces. "The MuckStopper IC range safeguards plot drainage inspection chambers, while the MuckStopper RS range protects manholes in the road and road gullies. The development of these products stems from a consultative approach involving extensive product trials with customers in the housebuilding industry," says Chambers.

Excessive rain is not the only climate-related challenge causing headaches for housebuilders, says Stephen Broadhurst, technical manager for Cordek.

### Subsidence

"Risks associated with ground desiccation and subsidence in shrinkable cohesive soils and clays are greater in hotter and drier summers. Insurers have seen a surge in climate related claims and those linked to subsidence are expected to increase significantly because of the hot and dry summer of 2022."

He explains that treating subsidence or heave is expensive and intrusive. "Cordek specialises in heave protection solutions for both domestic and non-domestic construction, offering standard and bespoke protective measures. Our heave protection product range enables designers and engineers to limit the pressure exerted on in-situ reinforced suspended concrete floors, piled ground beams and concrete foundations by the expansion of clay soils, or ground recovery."

Come excessive rain or prolonged shine, it is clear groundworks are key to building homes that can stand up to the climate crisis. **hb**

### KEY CONTACTS

**ADS** [www.adspipe.co.uk](http://www.adspipe.co.uk)

**Aquaspira** [www.aquaspira.com](http://www.aquaspira.com)

**Cordek** [www.cordek.com](http://www.cordek.com)

**Drainfast** [www.drainfast.co.uk](http://www.drainfast.co.uk)

**Hydro International** [www.hydro-int.com](http://www.hydro-int.com)

**Marshalls** [www.marshalls.co.uk](http://www.marshalls.co.uk)

**Polypipe** [www.polypipe.com](http://www.polypipe.com)

**Tamdown** [www.tamdown.com](http://www.tamdown.com)

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