Rapid retrofit of SuDS at a catchment scale
Sudsplanter Ltd

Awards category
Catchment based SuDS solutions

Lead or collaborating organisation(s)	Sudsplanter Ltd. and Southern Water
Location of SuDS	The South East of England in Southern Waters South catchment; Hampshire, Sussex, Isle of Wight and Kent.

1. SuDS overview

SuDS components used	- **450 SuDS planter units in a variety of sizes**
Size of the scheme and its local context	The scheme delivered disconnections to nearly 100 schools across the Southeast Disconnection of residential properties in Deal and communal buildings across the south of the UK
Approximate age of scheme (years)	1.5 years
Benefits of the scheme	• Integrating SuDS into community settings, so informing customers of Southern waters 'Clean Rivers and Seas', and SuDS for Schools projects. • SuDS planter units slow the flow of surface water into sewers so reducing flood risk downstream within the catchment. • Reduces the risk of Combined Sewer and Storm overflows spilling in heavy rainfall events. • Reduces the risk of pollution in the rivers and seas. • Simple retrofit solution, so preventing disruption to customers and reducing on site risk of flooding due to attenuation being supplied at source. This reduces the need for buildings to close due to flooding, so reducing disruption and avoidable cost. • SuDS planter units increase biodiversity on site, so supplying Biodiversity Net Gain (BNG) and encouraging pollinators and creating habitat within the urban environment. • SuDS planters soften hard landscapes and add colourful natural habitats and flower arrangements. • Provide seating and focal points for communal areas. • The SuDS planter design includes a minimum of 450mm of soil, so providing a good rooting depth for plants, and attenuated volume of water for these to access during drought periods. This ensures the plants resilience to drought in summer months and maximises their value as a carbon sink. • Provides long term educational benefits for communities to learn about the water cycle, climate change, SuDS, water responsibility, biodiversity, plant life cycles and self-sufficiency through interaction with schools and educational signage. • The use of the SuDS planters as a retrofit solution provides a simple installation method, and effective performance.

Briefly describe the scheme	The scheme aimed to develop a customer facing SuDS retrofit package for Southern Water to disconnect over 8ha of hard standing and roof areas across the catchment. A supply chain was developed to allow flexibility within order volumes and sizes to meet the needs of the installation crew. Southern Water's aim was to trial a number of different solutions in residential, commercial and school settings to align with funding opportunities provided through work with the Department for Education. As part of the project the programme included; • Identifying sites at risk of surface water and fluvial flooding • Engagement with customers to identify interest in SuDS solutions • Site surveys / connectivity surveys to assess connectivity • Sizing of roof areas/ volumes received by the SuDS interventions • Installation of SuDS solutions using project partners • Supply and installation of plants suited to the aspect and function of the location As part of the project a 'Circular economy' process was developed with the manufacturers whereby all waste plastic from both the manufacturing and installation process would be collected and recycled into the next planters supplied. This aligned with the partnerships environmental policy and the ambition for Southern water to clean up their rivers and seas.

2. SuDS details

No.	Question	Answer
1	What difference has this scheme made to the local community or area?	Enabled rainwater runoff from large roofs to be captured, so reducing the risk of localised flooding and the spilling of storm overflows into our rivers and seas. Year 1 managed over 8.2ha (10 football pitches) of impermeable land, attenuating 170,000+ litres of water each time it rains. Reduced pollution risk by mitigating storm overflows and flooding, the Suds interventions improve biodiversity, provide carbon sink benefits, and encourage pollinators. Provided outdoor learning environment to promote learning beyond the classroom and empowering schools to take positive steps towards contributing to a more sustainable society. Provided feature pieces for communities and communal buildings.
2	What is exceptional about this scheme beyond a standard approach?	This innovative endeavour and collaboration, the scale of which has not been seen before, has enabled a number of interventions to be achieved in a relatively short space of time. This included; over 450 rain garden planters to be installed across a number of catchments installed sustainable drainage systems (SuDS) in almost 100 schools in just 18 months using a flexible supply chain to meet the client's needs. Over 200,000 students to benefit from improved access to green spaces Delivered in a commercial, educational and residential setting using a plot-based approach to SuDS in Southern waters catchment.

3	How much work went into getting this scheme realised?	Many challenges were identified at an early stage of the project which needed to be addressed, these included. Site surveys - ensuring sizing information was made available to inform orders. This led to an app being developed to capture data for each location. Storage – Identify regional depots to provide safe storage for large volumes of stock and plants Installation – Train Install teams to undertake the disconnection and installation of the SuDS planters Post install data capture – To capture site install information and areas disconnected a survey app was developed, providing a report on completion of the job.
4	Is this scheme part of a masterplan or integrated into other initiatives?	Both AMP7 and AMP8 identify a need to incorporate SuDS into the water industries portfolio of solutions. Southern Water's scheme demonstrates a catchment-wide approach with endless scalability and undeniable results, a real-life example of the nature-based direction the water industry must move toward to protect and preserve our environment. Ongoing monitoring has been installed to enable the project outcomes to be captured successfully. This enables the project partners to inspire positive change by sharing our learning so the industry can use our trials and results to inform their own SuDS initiatives.

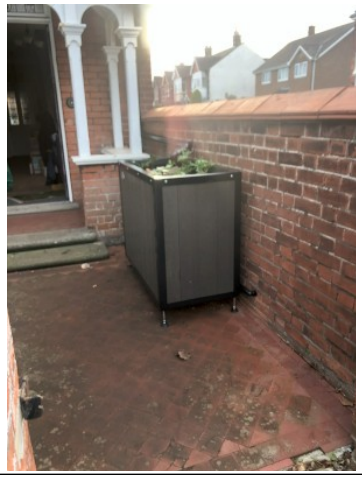
5	What value does this scheme provide to the local area and beyond?	• Building strong local partnerships and creating new employment opportunities. • Mitigating storm overflows and flooding and the pollution they cause. • Raising awareness of SuDS and their benefits to improve the overall environment. • Improving local biodiversity and providing wider environmental benefits to the local area. • Educating communities on sustainability and water responsibility. • Developing better customer relations between the water industry and their customers.
6	What challenges/problems needed to be addressed to realise this scheme?	**Funding:** Excessive project costs limit delivery across entire regions. Through illustrating the multiple benefits of a scheme and capturing the data enables 'whole life costs' for SuDS to be quantified, so building resilience by widening the funding support. **Supply chain:** To ensure we can maximise the environmental benefits of schemes such as these it is key to upskill the construction and water industry on the installation and maintenance of SuDS features. **Consistency:** Develop a quality control process within the supply and delivery of SuDS and the maintenance post installation to ensure customer satisfaction.

7	How does the scheme address related issues such as water scarcity, nutrient neutrality, or biodiversity net gain?	By educating communities on the importance of water responsibility, ecology, and biodiversity, we are helping the new generation to understand the power they hold to make change and improve our environment. The offering of a cost-effective simple roll out of SuDS across the catchment has enabled Southern Water to inspire, support, and champion those that wish to make a difference and create change, this starts in schools and communities. As well as creating the next generation of eco warriors, the interventions provide green spaces, promote biodiversity, provide food and homes for local wildlife, and provide carbon offsetting and capture.
8	Is learning from the scheme continually captured and communicated? Please give examples.	Southern Water monitors many of the installs and collates these results to inform future projects that we collaborate on. We are in regular contact to ensure quality and consistency during the installation process. We also have regular, quality control check ins with our manufacturers and suppliers to ensure we have smooth delivery from start to finish. We believe green solutions are a critical part of overcoming our reliance on storm overflows. We're making our data available to the wider industry to enable faster and wider implementation of nature-based solutions in communities across the UK.

9	What approaches/measures are taken to ensure the scheme is properly managed and maintained?	The SuDS planters are designed to be very low maintenance through their design during drought or flood episodes. As part of the scheme Sudsplanter are looking to identify local communities' groups and training organisations such as the Princes Trust to adopt the maintenance of the planters as part of their local training and maintenance activities. Within schools students are encouraged to take ownership of the SuDS features and how they can enjoy the associated benefits. We've heard great success stories with the planting and maintenance being included within lesson plans, particularly in home education and outdoor learning/forest school style classes.
10	Have you collected any feedback on your scheme? What do people say about it? Can you provide any quotes?	Feedback on the project has been incredibly positive. The residents feedback from Claremont St, Deal included; "The SuDS Planter installation was provided with a good choice of good quality plants, the SuDS Planter and infill soil making it very easy to adopt. This was all installed free of charge. We feel it is good to know that you are doing your bit to prevent local drainage systems being overwhelmed in heavy rain. We are very happy to have taken part in the trial." Testimonial from Godshill Primary School, Isle of Wight – 4 SuDS planters installed. "The planters provide nature and habitat for the local environment, providing a talking point for parents and a sensory element for learning in a school environment". Testimonial from Ian Deakin, Pathfinder engineer for 'Clean rivers and seas' taskforce for Southern Water; "It's been excellent working alongside Sudsplanter Ltd on our SuDS in Schools initiative. Their extensive knowledge of not only sustainable drainage, but the flora and fauna associated with them added so much value into the project and the curriculum of the schools."

3. Supporting materials

Image (low resolution)	Caption	Image credit
	One of many SuDS planters installed on residential properties in an area of Deal, Kent identified as contributing to downstream flooding issues.	Sudsplanter Ltd
	Two large sized SuDS planter units retrofitted to haulage company depot on The Isle of Wight. One of many commercial properties identified by Southern Water as draining large roof areas into their sewer network. The photo shows the install team receiving training of best planting methods and practices. These 2 planters captured and attenuated the entire roof area of the haulage depot.	Sudsplanter Ltd

 	These photos show a Before & After of another residential property in Deal, the owners of which opted to have a SuDS planter retrofitted to the front of their property. This allowed the downpipe, which was awkwardly positioned in a tight space, to be easily redirected into the planter which subsequently discharged at a much reduced/controlled rate back to the original discharge point. The residents took a very active role in the installation and planting process and were very proud of the completed planter and were very happy with the fact that they were helping to address nearby flowing issues.	Sudsplanter Ltd
 	Two SuDS planter units retrofitted to the front of a community centre on the Isle of Wight. This location was also used by Southern Water to hold engagement events with local residents to help communicate the benefits of their Clean Rivers and Seas projects and obtain buy in from interested property owners	Sudsplanter Ltd