Edible SuDS Planters for Schools

Submitted by Meristem Design

Awards category

Regeneration and retrofit – public buildings

Lead or collaborating organisation(s)	Application by Meristem Design in collaboration with Newham Council, the DfE and Regenerous.
Location of SuDS	14 schools in Newham: 1. Smarty Pants Nursery 2. Carpenters Primary School 3. School 21 4. Stratford Manor 5. New Directions 6. Windsor Primary 7. Ellen Wilkinson Primary 8. Oliver Thomas Children's Centre 9. School 360 10. Little Ilford

	11. Altmore Infant School 12. Star Primary School 13. Calverton Primary 14. Grange Primary School

1. SuDS overview

SuDS components used	SuDS Planters with edible plants
Size of the scheme and its local context	We designed and installed 109 SuDS planters across 14 schools in Newham to support flood resilience and the potential for food growth within urban environments by incorporating edible plants into these planters. The 109 SuDS planters provided 340m2 of planting and 47,102.1 litres of water storage (taking into account the storage capacity / void space of the different internal materials)
Approximate age of scheme (years)	The project commenced in 2023 and was completed by the beginning of 2024.
Benefits of the scheme	● Manages local flood risk effectively by enhancing water absorption and storage. ● Increases local biodiversity by introducing a variety of edible and native plant species. ● Improves water quality through natural filtration processes in the planters. ● Provides educational opportunities for school children in sustainable practices and initiatives to connect kids with sustainable food sources ● Enhances the aesthetic value of school environments, promoting well-being.
Briefly describe the scheme	Our project in Newham introduces a network of SuDS Planters across 14 local schools, designed to alleviate surface water flooding in this densely populated and flood-prone borough. These SuDS Planters serve two important functions. Firstly, they help manage rainwater more efficiently by capturing it and slowly releasing it back into the earth, thus easing the load on the city's drainage systems. Secondly, these planters double as educational gardens where students can grow and study edible plants. This approach not only manages excess rainwater but also transforms schoolyards into active, green learning environments that promote biodiversity. The planters are engineered to absorb rain swiftly and have a large storage capacity to handle significant amounts of water, making them perfectly suited for urban settings like Newham. By incorporating these green spaces into schools, the project enhances educational experiences and teaches students valuable lessons about environmental sustainability.

2. SuDS details

No.	Question	Answer
1	What difference has this scheme made to the local community or area?	Our scheme has significantly enhanced flood resilience in Newham schools while simultaneously enriching the educational environment. By incorporating edible plants into SuDS planters, the project has engaged students with hands-on experiences in sustainable food production, supporting community awareness and participation in environmental stewardship.
2	What is exceptional about this scheme beyond a standard approach?	This project uniquely combines flood management with interactive educational opportunities through the use of edible plants in SuDS planters. Beyond conventional SuDS, it incorporates a practical learning component where students understand and engage with the lifecycle of food, linking sustainability directly with daily school activities.
3	How much work went into getting this scheme realised?	Realising this scheme required extensive planning and execution across multiple phases. Initially, we conducted surveys to identify the schools most at risk of flooding, guiding the precise placement of the SuDS planters. A detailed audit followed to tailor SuDS features for each school's unique needs. We also analysed how to integrate food-growing into the project, enhancing its educational value.
4	Is this scheme part of a masterplan or integrated into other initiatives?	Yes, the scheme aligns with broader environmental resilience and educational strategies in Newham. It serves as a component of the urban adaptation plan, aiming to create sustainable and resilient educational environments across the borough.

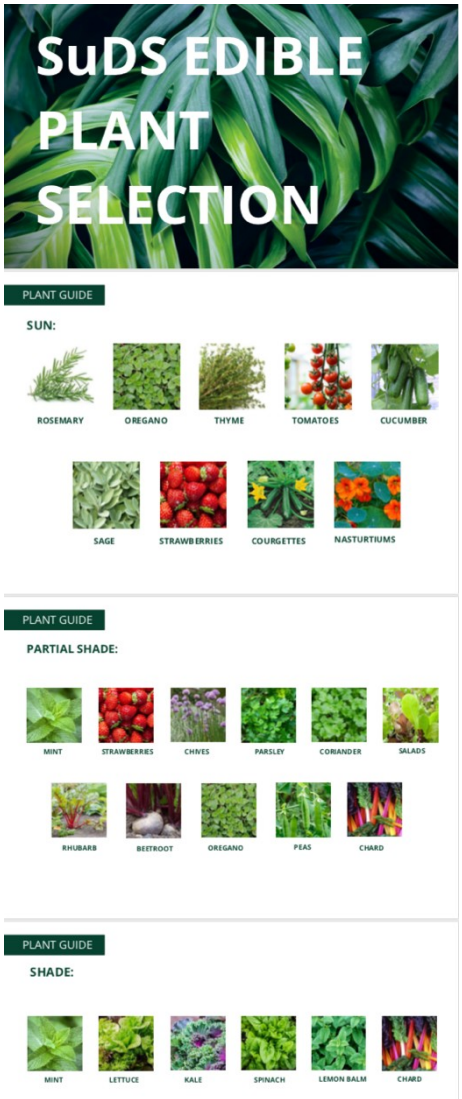
5	What value does this scheme provide to the local area and beyond?	The scheme not only mitigates flood risks but also serves as a living classroom for sustainability education. It's a model of how urban spaces can integrate green infrastructure to serve ecological, educational, and community needs, inspiring similar initiatives in other urban areas.
6	What challenges/problems needed to be addressed to realise this scheme?	Implementing this scheme involved overcoming several challenges: navigating logistical issues in densely populated school settings, tailoring installations to diverse environmental conditions, and integrating the planters into school curricula as educational tools. Each phase, from assessment to installation, was carefully managed to address these challenges effectively, ensuring the planters not only reduced flood risks but also served as effective educational resources.
7	How does the scheme address related issues such as water scarcity, nutrient neutrality, or biodiversity net gain?	The project tackles water scarcity by enhancing rainwater retention and reducing runoff, supports biodiversity by providing habitats within the planters, and contributes to nutrient neutrality by using plant uptake to balance nutrient loads in the soil.
8	Is learning from the scheme continually captured and communicated? Please give examples.	Learning is a central theme of this project, with ongoing documentation of environmental impacts and student learning outcomes. Workshops and curriculum integration allow students to explore concepts of hydrology, plant biology, and sustainability first-hand.
9	What approaches/measures are taken to ensure the scheme is properly managed and maintained?	Regular maintenance schedules are upheld by school staff and students, fostering a sense of ownership and responsibility. Educational workshops provide continuous learning and engagement, ensuring the longevity and effectiveness of the SuDS features.

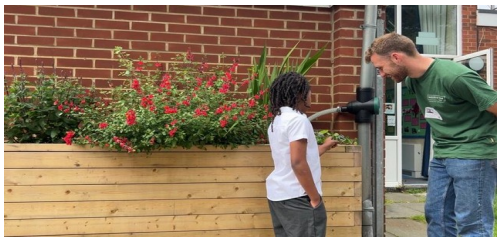
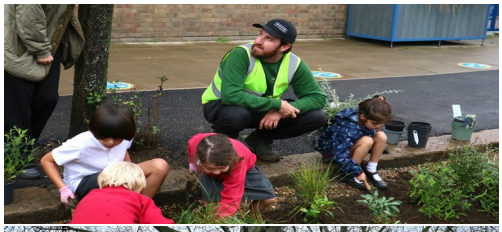
10	Have you collected any feedback on your scheme? What do people say about it? Can you provide any quotes?	Feedback has been overwhelmingly positive, with teachers noting increased student interest in gardening, sustainability. Parents have appreciated the practical environmental education their children receive. One teacher commented: “The planters have a great self-sufficient design, being maintained almost entirely by rainwater and look great in our playground. Meristem was really professional and prompt in all our communication and we are really pleased with the final result” Additional testimonials/quotes are available upon request.

3. **Supporting materials**

Image (low resolution)	Caption	Image credit
	**Smarty Pants** SuDS planter connected to a water butt which is designed to collect and store rainwater. The setup is designed to be part of an educational environment, providing several benefits related to climate resilience, flood management, and education. The water butt collects rainwater from the roof via a downpipe, conserving water that can be used for irrigation. This reduces the demand for mains water and teaches students about the importance of water conservation.	Meristem Design

	**New Directions** At New Directions School - where we installed 14 SuDS planters. We also installed a 21m raised, modular Rain Garden planter made from black powder-coated, galvanised steel. Our raised Rain Garden Planters capture surface runoff that flows through perforations in the sides of the planters. For increased water retention and attenuation the planters can be filled at the base with an eco-friendly solution: Hydrorock. It has high efficiency in water absorption and retention, with a 94% water retention capacity. Each square metre can hold up to 142 litres of water and enables plants to draw water via capillary action.	Meristem Design
	**School 21 - SuDS Planters featuring foldable seats** We installed SuDS Planters with foldable seats and received very good reviews:	

	Picture taken 4 months after installation.	Meristem Design
	SuDS Edible Plant Selection guide. Incorporating edible plants into SuDS planters enriches the educational experience by providing practical lessons in sustainability and biology.	Meristem Design

  	Anticipating the growing season, we have planned a series of cooking classes and gardening workshops.	Meristem Design
	Growing Seed Workshops with Meristem Design	Meristem Design