

**Dean Gardens SuDS Project
Submitted by London Borough of Ealing**

**Awards category
Regeneration and retrofit – small scale (less than one hectare)**



Lead or collaborating organisation(s)	London Borough of Ealing, Thames Water
Location of SuDS	Dean Gardens, Broadway, London W13 9LX

1. SuDS overview

SuDS components used	Rain gardens, detention basin, geocellular storage (aquifer blocks), vortex flow control
Size of the scheme and its local context	1,800m ² of highway runoff managed through SuDS components at a busy interchange and public space in the London Borough of Ealing, providing 340m ³ of storage in an underused and untidy area of Dean Gardens park.
Approximate age of scheme (years)	1
Benefits of the scheme	Flood risk management, biodiversity, amenity, sewer capacity, recreation, water quality, climate adaptation, community awareness and education , health and wellbeing.
Briefly describe the scheme	<p>Existing highway gullies on The Broadway north of Dean Gardens that drained into the Thames Water sewer at an unrestricted rate have been disconnected and diverted to drain into the new SuDS feature in Dean Gardens. Additional gullies were installed to increase collection efficiency. All flows pass through silt traps before entering the attenuation system.</p> <p>The scheme provides 340m³ storage for approximately 1,840m² of total catchment area that re-enters the sewer at a restricted rate of 1.7l/s.</p> <p>An untidy area of the park that suffered from littering and pigeon feeding activities. It is close to the playground, bus stops and the main road with shops and cafes. The park is located in the town centre with a high footfall and used for local community events.</p> <p>The first project of its kind in London, it uses a natural stone wool material instead of the usual plastic, comprising an underground attenuation system to collect highway runoff and slowly release it into the surface water sewer.</p> <p>Directly above the rainwater storage system are raingardens that are wildlife-friendly, with flowering meadow. The rain gardens include swales 'dished areas' within them to help collect additional storm water and logs and boulders for natural play.</p>

2. SuDS details

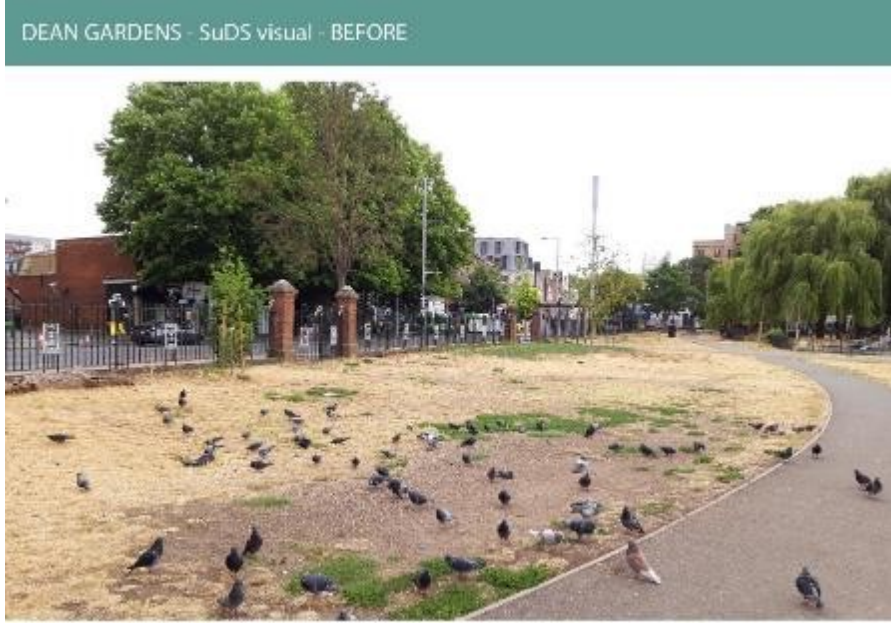
No	Question	Answer
1	What difference has this scheme made to the local community or area?	<p>An area of Dean Gardens was previously untidy and underused, where pigeons and littering were an ongoing problem. The scheme has made this area more attractive and welcoming.</p> <p>The rain garden creates a buffer zone between the park and the busy main road, doing so much more with the space available. It's an enhanced, thriving green space for everyone to enjoy in an urban environment. This leads to an increased sense of community and raises awareness of climate change. It's also increasing education on sustainable drainage thanks to an information board, community engagement and on-going volunteer gardening activities.</p>
2	What is exceptional about this scheme beyond a standard approach?	<p>Public awareness events invited local families to get involved with planting.</p> <p>Volunteer gardening event.</p> <p>On site knowledge share event, inviting other LLFAs, RMA's and professionals from related disciplines to see the scheme during construction.</p> <p>The project uses a natural stone wool material instead of a plastic crate systems, a more environmentally friendly solution as it's recyclable and non-plastic. It also helped to condense the construction time of the overall project by approximately third.</p> <p>Reuse of on-site material reduced transportation, overall costs and carbon emissions.</p>

3	How much work went into getting this scheme realised?	<p>The success of the scheme was reliant on collaborative working across internal partners and external partners, to bring together the shared vision and ensure co-operation. A detailed funding application was built and submitted to Thames Water, who assessed the project alongside >100 other applicant projects.</p> <p>Multiple community engagement events were organised to promote the project in the community, including a site visit for other LLFA officers to see the scheme in construction.</p> <p>Significant resource to overcome a large funding gap by identifying funding sources and value engineering to consider alternative solutions to close the funding gap.</p>
4	Is this scheme part of a masterplan or integrated into other initiatives?	<p>Links with the Dean Gardens Park masterplan and vision for TfL's West Ealing Liveable Neighbourhood.</p> <p>Part Thames Water's Surface Water Management Programme, providing up to £3M for projects across the Thames region. The region has the greatest number of LLFA's (54 no.) in its region compared to other water companies, together with over 15 million customers.</p> <p>A primary aim of the SWMP is therefore to build capacity and establish working relationships with as many of these LLFA's in delivering SuDS, in addition to delivering a range of multi-beneficial SuDS that reduce demand on the sewerage system and creating public value.</p>
5	What value does this scheme provide to the local area and beyond?	<p>The scheme has improved the surface water sewer network capacity in this part of Ealing by as much as 94%, thanks to the restricted discharge rate of 1.7l/s.</p> <p>The sewer capacity in the area, modelled as part of the DWMP, is limited. But the scheme helps reduce the risk of surcharge from the sewer downstream and the flood risk on the adjacent highway upstream.</p> <p>Community involvement through planting events organised by the council and local gardening group also offers health and wellbeing value to the users of the park, including a weekly gardening group.</p>

6	What challenges/problems needed to be addressed to realise this scheme?	<p>Funding gap of £140k was overcome by utilising a new innovative technology of aquifer blocks, which helped to reduce the total cost of the scheme by approximately a third. The civils delivery programme was also reduced from 12 weeks to 7-8 weeks to the quicker installation.</p> <p>Other challenges the project overcame:</p> <ul style="list-style-type: none"> • Community acceptance • Working with utility constraints and existing levels • Working around existing tree(s) • Keeping the park open for the community during construction • minimal disruption to park and highway
7	How does the scheme address related issues such as water scarcity, nutrient neutrality, or biodiversity net gain?	<p>The scheme was not required to achieve mandatory BNG, however the area (as shown in photos) consisted of poor quality grassland and has now been converted into a wild flower raingarden.</p> <p>The scheme has enhanced the area with biodiverse green space that's a haven for insects, birds and amphibians. It's a natural play area that creates a deeper connection between children and the natural world and helps fuel their imaginations.</p>
8	Is learning from the scheme continually captured and communicated? Please give examples.	<p>On site event was held where other LLFA officers and professionals were invited to see the project being constructed.</p> <p>Presentation planned for an upcoming LoDEG meeting to share good practice and knowledge of the new innovative rockwool technology, encouraging other London based LLFA's to consider it.</p> <p>Thames Water's SWMP is capturing learnings to increase the scale of SuDS delivery in AMP8. The SWMP sought to understand how to mainstream SuDS with local authorities and other partners, following three principles; Need for capacity in sewers, Collaboration, and generating public value.</p>

9	What approaches/measures are taken to ensure the scheme is properly managed and maintained?	<p>Maintenance of the features will be delivered by Ealing Council.</p> <p>The scheme has been designed to be low and simple maintenance.</p> <p>There is a maintenance schedule for the various components of the SuDS project – some have been incorporated into existing maintenance/inspection regimes.</p>
10	Have you collected any feedback on your scheme? What do people say about it? Can you provide any quotes?	<p>As well as positive feedback at events and from park users, Councillor Costigan (Deputy Leader of the Council) said: “I really love this project because it not only reduced the risk of sudden flash flooding on the Broadway, it also created a beautiful new rain garden which can be enjoyed by wildlife and visitors to Dean Gardens.”</p> <p>There are also further plans for community engagement to get feedback once the rain gardens are fully established.</p>

3. Supporting materials

Image (low resolution)	Caption	Image credit
 <p>DEAN GARDENS - SuDS visual - BEFORE</p>	<p>Photo of the underutilised area before construction</p>	<p>London Borough of Ealing</p>

<p>DEAN GARDENS - SuDS visual - AFTER</p> 	<p>Concept image visualisation of post scheme (see photos for actual post scheme, note that planting is yet to establish)</p>	<p>London Borough of Ealing</p>
	<p>Plan drawing of the above ground rain garden features</p>	<p>London Borough of Ealing</p>

	<p>Plan drawing of the below ground attenuation and connectivity with gulleys and sewer.</p>	<p>London Borough of Ealing</p>
	<p>Post scheme completion photo of rain garden being planted by volunteers, overlooked by local shops and cafes</p>	<p>London Borough of Ealing</p>



Volunteer planting event

London Borough of Ealing



Public display board

London Borough of Ealing



Planting yet to be established post scheme

London Borough of Ealing