



**Muswell Hill SuDS Scheme  
Submitted by London Borough of Haringey**

**Awards category**

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



Lead or collaborating organisation(s)	London Borough of Haringey, Thames Water, Project Centre & Marlborough Highways
Location of SuDS (Postcode, grid reference, or <a href="#">what3words</a> )	Muswell Hill Junction with Priory Road & Park Road N8 8NB

## 1. SuDS overview

SuDS components used	Rain Gardens Permeable Paving
Size of the scheme and its local context	Catchment Area - 2740 sq.m Total Storage Volume – 144 Cu.m
Approximate age of scheme (years)	1 years
Benefits of the scheme	<ul style="list-style-type: none"><li>• The design incorporated rain gardens and permeable paving, providing storage volume of 144 m<sup>3</sup> together, which contribute to sustainable water management, minimise stormwater runoff, and enhance water quality.</li><li>• Their combined benefits support environmental conservation, reduce flood risk whilst relieving pressure on the existing surface water sewer network, while creating a healthier and more aesthetically pleasing urban environments.</li><li>• Other advantages include:<ol style="list-style-type: none"><li>a) Runoff management and water conservation captures runoff, stores it and releases it back once attenuated. The runoff temporarily stored in the bottom layers of the rain gardens reduce the need for supplemental irrigation, which contributes to the conservation of water resources and reduction of overall water consumption.</li><li>b) Water quality improvement: rain gardens and permeable paving areas act as natural filters, removing pollutants from rainwater runoff.</li><li>c) Amenity and biodiversity: rain gardens create habitat opportunities for various plants and animal species, contributing to the local biodiversity, and enhance the visual appeal by adding colour and visual interest to the surroundings through planting.</li></ol></li></ul>

<p>Briefly describe the scheme</p>	<p>The project was mainly developed to address existing surface drainage problems.</p> <p>Few options were identified. Constraints and opportunities were analysed to assess the viability of each option, including the presence of utilities plant, local topography, and existing land use. Modelling assessments were undertaken to estimate the reduction in runoff rates. A costing exercise was carried out to ensure that the chosen options provide value for money and net benefit.</p> <p>Based on these analysis, 3 rain gardens and area of permeable paving were taken forward:</p> <p>These options represent the value for money and the potential for the reduction of surface water runoff. Modelling indicated that all these four options will reduce the existing runoff rates by over 70% during a 1 in 30-year storm event and could reduce the flooding for at least 20 homes within the study area.</p> <p>In addition to the SuDS works, Council carried out a number of drainage improvements to existing gullies and their outlets. All the works were coordinated with Thames Water repairs to their drainage network. This work was identified through the Council putting pressure on Thames Water to carry out surveys and repairs to assets locally.</p>
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## 2. SuDS details

No.	Question	Answer
1	What difference has this scheme made to the local community or area?	<p>The Muswell Hill Junction has been identified within one of the Haringey's Critical Drainage Areas. The Environment Agency's Surface Water mapping also shows this area as high risk of surface water flooding.</p> <p>In recent years, there have been several flooding incidents at the above location. The new scheme is projected to provide significant reduction within the existing flooding by providing 70% betterment for 1 in 30 – year storm event in the catchment location.</p> <p>The scheme has contributed to the sustainable water management, minimising stormwater runoff by enhancing the water quality, amenity, and biodiversity.</p>
2	What is exceptional about this scheme beyond a standard approach?	<p>The implementation of scheme within one of the busiest junctions addressed the historic flooding issues and offered numerous other benefits.</p> <p>The scheme was coordinated with major works by Thames Water to their assets and local drainage improvements works by the Council.</p> <p>The works had to be carried out in several phases to minimise disruption while maintaining access to properties. Traffic Management plans were complicated with changes resulting from Thames Water access and also local demands.</p> <p>We received a letter of appreciation from some of the businesses for sorting out the historic flooding issues that have occurred here over several years.</p>

3	How much work went into getting this scheme realised?	<p>The design proposals were developed thorough Council’s co-design approach following extensive local consultation, feedback from stakeholders both internally and externally, communication with TfL, and also for Alexandra Palace events. The design was complex and required the education of the public.</p> <p>The Traffic Management for the scheme was quite complex with 5 different phases. Road closures were implemented along with diversions routes. The total works lasted for about 16 weeks and 4 VMS signs were installed as well to notify the public. Our contractor also employed “gatespersons” to assist with allowing necessary access for deliveries during the working day.</p>
4	Is this scheme part of a masterplan or integrated into other initiatives?	<p>The masterplan was to mitigate the historic flooding in this area and required the integration of the SuDS works with civils repairs to the existing drainage assets. The partnership with Thames Water and other stakeholders allowed us to carry out a holistic approach in the scheme.</p> <p>These retro-fit SuDS were delivered as a part of essential flood mitigation measures that benefited wider homes and businesses affected by flooding, and most importantly during the deluge of rainfall events in July 2021 and August 2022.</p>
5	What value does this scheme provide to the local area and beyond?	<ul style="list-style-type: none"> <li>• <b>Flood Risk Management:</b> The scheme helped by mimicking natural drainage processes, hence reducing flooding for nearby businesses, and added value to local properties.</li> <li>• <b>Water Quality:</b> The scheme promoted the natural filtration and pollutant removal thus improving the water quality.</li> <li>• <b>Biodiversity Enhancement:</b> Raingardens created habitats for various plant and animal species. Thus, enhances local biodiversity and contributes to urban green spaces.</li> <li>• <b>Climate Resilience:</b> It helped adapt the areas impact of climate change by reducing heat island effects, management of stormwater, and the promotion of water conservation.</li> <li>• <b>Educational Opportunities:</b> Provided educational opportunities within schools, businesses by raising awareness of water management practices.</li> </ul>



6	<p>What challenges/problems needed to be addressed to realise this scheme?</p>	<p>The scheme came with number of challenges. Addressing these required careful planning, collaboration and innovative problem-solving approaches. Some of these are:</p> <ul style="list-style-type: none"> <li>• <b>Community liaison:</b></li> </ul> <p>The residents had lack of awareness of SuDS and their benefits. We provided informative and educational data.</p> <ul style="list-style-type: none"> <li>• <b>Traffic Management</b></li> </ul> <p>Due to the complex TM and some unlawful changes by some residents, we had on site representation for the entire duration of works.</p> <ul style="list-style-type: none"> <li>• <b>Utilities Constraints:</b></li> </ul> <p>Site's limited space and existing infrastructure required innovative design solutions. By analysing CCTV and GPR, the scheme was tailored to fit within the available space, whilst maximising effectiveness and promoting SuDS practices.</p>
7	<p>How does the scheme address related issues such as water scarcity, nutrient neutrality, or biodiversity net gain?</p>	<p>The location of the scheme gave an excellent opportunity for residents, businesses and passers by to look at works.</p> <p>SuDS principles were used to manage and treat surface water at source, controlled and conveyed back to surface by providing an opportunity for water to be part of the scheme. It is expected that water treatment processes will occur within the actual growing plants.</p> <p>Rain gardens will create habitat opportunities for various plants and animal species, contributing to the local biodiversity, and enhance the visual appeal by adding colour and visual interest to the surroundings through planting.</p>

8	<p>Is learning from the scheme continually captured and communicated? Please give examples.</p>	<p>One of the Council's objectives is to promote the educational aspects of the scheme for the benefit of local residents, and businesses, who expressed considerable interest during the consultation.</p> <p>To involve and gain their confidence, information about scheme was provided during various stages, explaining the benefits, catchment areas and how SuDS will work.</p> <p>Following the completion of the maintenance, our partner Thames 21 will be engaging with some of the "Friends" and local businesses to form a group of volunteers. Also provide them training and equipment to help the Council manage and maintain the scheme through local support.</p>
9	<p>What approaches/measures are taken to ensure the scheme is properly managed and maintained?</p>	<p>The scheme will in time, lead to reduce the cost of maintenance particularly those associated with regular gully cleansing and periodic emergency call outs for 'blocked drains'. Low maintenance and high impacts planting were used, which require minimal maintenance and mulching once a year.</p> <p>The rain garden will be maintained by Haringey's Parks team as a part of an agreement and the highways team are responsible for the structure.</p> <p>Litter in rain gardens get picked up, twice a month. The vegetation, cutting, pruning and weeds are carried out twice a year as a part of Park's maintenance guidance.</p>

10	<p>Have you collected any feedback on your scheme?          What do people say about it?          Can you provide any quotes?</p>	<p>Once the scheme has been in place for 2 years, we will ask for residents formal feedback. In the meantime, any ongoing issues can be raised through emails and the Council’s online feedback process.</p> <p>Following the completion of the scheme, our Cabinet member received an email of “Thank you” from local businesses confirming, even after several substantial downpours in recent months, it did not result in any flooding within the area. The scheme has made significant improvement to the area.</p> <p><u>“The works seemed to have made a big difference in particular to the Park Road”.</u></p>
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### 3. Supporting materials

Image (low resolution)	Caption (200 words max)	Image credit
	<p><b>Before</b></p> <p>Priory Road Raised planer</p>	
	<p><b>After</b></p> <p>Priory Road Rain Garden</p>	



**Before**

Alexandra Park  
Road  
Raised planer



**After**

Alexandra Park  
Road  
Rain Garden




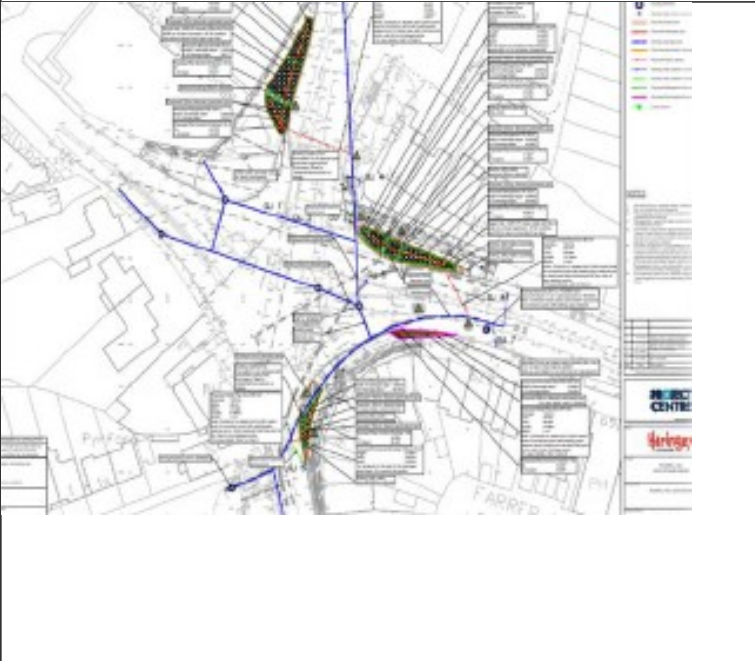
**Before**

Park Road  
Raised planer



**After**

Park Road  
Rain Garden

 <p>This diagram shows a street layout with several inset photographs of proposed green infrastructure. The streets shown include 'Mansell Hill', 'Amenable Pines Way', 'Priory Road', 'Eskdale Ave', and 'Penny Lane'. A legend in the top right corner identifies 'Permeable pav' (blue) and 'Rain garden' (yellow). A 'PROJECT CENTRE' logo is visible in the bottom right corner of the drawing.</p>	<p>Stakeholder / Public Consultation Drawing</p>	
 <p>This is a detailed technical drawing of the scheme, showing a complex network of blue lines representing drainage paths across a site plan. The drawing includes various annotations, a legend on the right side, and a 'PROJECT CENTRE' logo at the bottom right. The site plan shows building footprints, roads, and green spaces.</p>	<p>Detailed Design Drawing of the Scheme</p>	

