

## Heron Court Rain Garden, London



### SuDS used

- *Rain Gardens*

### Benefits

- *Increased infiltration of water – reduced quantity of runoff and improved quality*
- *Increased amenity value, social cohesion and wellbeing of residents*
- *Educational opportunities*
- *Increased biodiversity for wildlife*

### 1. Location

Heron Court, Rosendale Gardens Estate, Elmworth Grove, London SE21 8RQ

Grid Ref: TQ 3271 7270

### 2. Description

As part of the 'Lost Effra Project' (see below for details), London Wildlife Trust (LWT) worked with the Rosendale Gardens Tenants and Residents Association (TRA) to improve the garden area at the front of Heron Court. The design included adding more planting along the front of the block and restoring the planted areas that were damaged by building works a few years ago. Additionally, two

new raingardens in the middle grass areas either side of the central path into the block were constructed. These were designed to fill with rainwater from the roof when it rains, allowing it to soak into the ground, diverting it from the main sewers. It also makes use of the clean rainwater to nurture plants rather than losing it to the sewers, improving local air quality, cooling the air in summer heatwaves and supporting local wildlife.

The SuDS at Heron Court have been created as part of the wider South London **Lost Effra Project**, a scheme run by London Wildlife Trust to work with local people to reduce flood risk by creating sponge-like gardens that soak up rainwater and improve places for people & wildlife. Managing flood risk is particularly important in the Brixton and Herne Hill area, where the local landscape was formed by the River Effra, a polluted urban river that was eventually incorporated into the Victorian sewers in the 1860s. When rain falls it still flows into the valleys created by the Effra, making the area susceptible to surface water flood risk.

LWT consulted on the project with TRA from the start of the project and as a result the initial proposal of one raingarden was increased to two as the TRA decided they wanted it to be symmetrical. The maintenance of the raingardens was to be done by the TRA and as such a low maintenance planting plan was designed. Construction and hard landscaping was completed by contractors. The planting of the raingardens and the new and restored planting areas were done on community planting days organised by LWT. These planting days and community events were used to raise awareness of the flooding issues and why these SuDS were chosen. Interpretation boards installed by the raingardens during construction are used to reinforce these messages.

The construction of the SuDS at Heron Court was funded by Lambeth Council with wider funding for the Lost Effra Project coming from Thames Water.

### *3. Main SuDS components used*

Two new Raingardens were constructed to divert clean rainwater from the 420m<sup>2</sup> roof of the residential building. The raingardens were located slightly away from the main building with an inflow channel connecting them to the disconnected rainwater down downpipes. An overflow pipe was also installed reconnecting the raingarden to the existing waste water pipe to allow excess water to run off into the sewer in extreme rain events.

### *4. How it works*

Each raingarden consisted of a 500mm deep excavation with a surrounding 150mm berm. This is filled with a 200mm bottom drainage layer of gravel and stone topped with a 200mm sandy soil layer, leaving a 150mm deep ponding area for water to collect. An overflow pipe, the inflow of which sits within the ponding area at the maximum level to which water can rise without overflowing the berm, connects back into the combined sewer. Thereby, allowing any water which has pooled to the maximum depth in the rain garden to drain back into the existing waste water pipe.

### *5. Specific project details*

Funding for the project was provided by Lambeth Council, while the Lost Effra project officer's time was paid for by Thames Water's community fund and Royal Bank of Canada's Blue Water fund.

Community consultations and residents' meetings were held prior to the project to establish interest and get feedback from residents, which informed some design changes.

February 2017 - contractors carried out hard landscaping (digging rain gardens, levelling gardens using extra soil, creating rainwater channels into and out of rain gardens).

April 2017 – community planting days were organised to plant the raingardens and new/existing planting areas adjacent to the building.

July 2017 – A celebration event was held for residents to appreciate the new garden and to re-establish interest in maintaining and enjoying them.

## *6. Maintenance & operation*

The gardens are maintained by residents as part of their well-established estate gardening group, who also maintain a nearby community growing space.

## *7. Monitoring and evaluation*

The scheme was designed to showcase the many knock-on benefits SuDS can bring to a community, and it has succeeded in this. The garden remains operational and well cared for, with all components continuing to function well. Residents continue to learn new skills, enjoy time in nature and contribute to their community while meeting their neighbours through use of the space. Increased numbers of native pollinators such as bumblebees and hoverflies, as well as honey bees, have been observed using the gardens, pointing to an increase in biodiversity.

## *8. Benefits and achievements*

Significant reduction of surface water runoff to combined sewer.

Local residents have improved knowledge of surface water flood risk and the benefits of SuDS through engagement with the project and through the public-facing interpretation boards onsite.

Increased community cohesion and social wellbeing.

The garden continues to be cared for and well maintained by residents and community members.

## *9. Lessons learnt*

The gardens went through several design stages through consultation with residents and contractors. The initial design was for only one garden and included a perforated overflow pipe along the bottom of the garden to take excess water back to the combined sewer. Later designs removed this element in favour of a single unperforated overflow pipe at the site of potential overflow. Residents also requested two gardens rather than one, to maintain symmetry at the front of the building; this required additional funding which was provided by Lambeth Council.

## *10. Interaction with local authority*

Lambeth Council was instrumental in making this project happen, and it was successful thanks to the close working relationship between the Lost Effra project and the council's flood risk officer.

Lambeth secured capital funding for the project, increasing this funding when additional funds were required for a second rain garden at the residents' request.

## *11. Project details*

**Construction completed:** *April 2016*

**Cost:** Costing

Hard Landscaping: £14,700

Planting and interpretation boards: £4,600

Total cost: £19,300

**Extent:** 18m<sup>2</sup> (2 x 9m<sup>2</sup> rain gardens)

## 12. Project team

Funders	<ul style="list-style-type: none"><li>• Lambeth Council</li><li>• Thames Water</li><li>• Royal Bank of Canada</li></ul>
Clients	<ul style="list-style-type: none"><li>• Lambeth Council</li><li>• Rosendale Gardens Tenants and Residents Association</li><li>• London Wildlife Trust Lost Effra Project</li></ul>
Designers	<ul style="list-style-type: none"><li>• Lost Effra Project Officer</li></ul>
Contractors	<ul style="list-style-type: none"><li>• Hugh Pearl Land Drainage</li></ul>
Other	<ul style="list-style-type: none"><li>• Interpretation design by Full circle Design and Metalanguage Design</li></ul>

## 13. Images

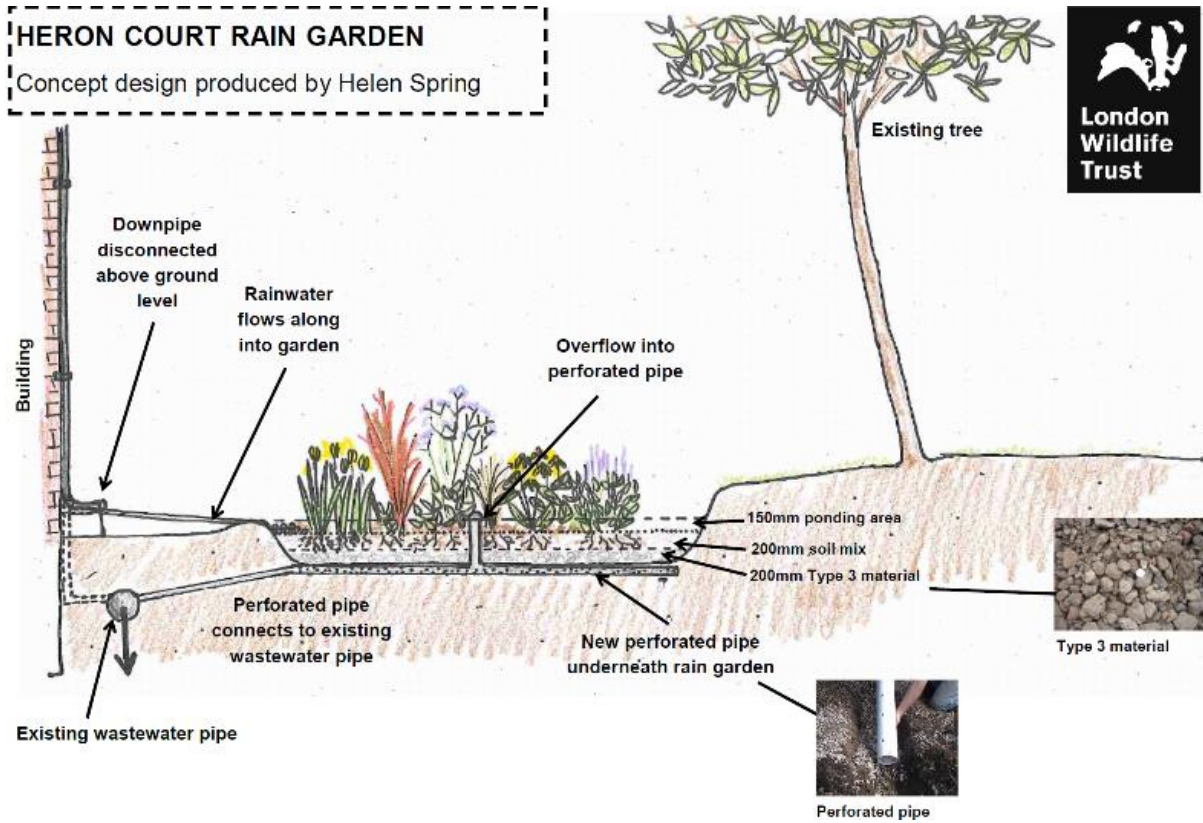


Fig 1: Garden - initial design (the outlet pipe in Fig.1 sits below the rain garden and is perforated, so it would tend to act like a French drain. This would effectively drain the soil and maintain the rain garden dry. This initial design was modified so the outlet is set higher to maintain the rain garden wet, except when it is 'full' and overflows back into the wastewater pipe).



Fig 2: Residents involved in planting up the rain gardens



Fig 3: The gardens before planting, with downpipes direct to combined sewer



Fig 4: The gardens during construction, with overflow pipe

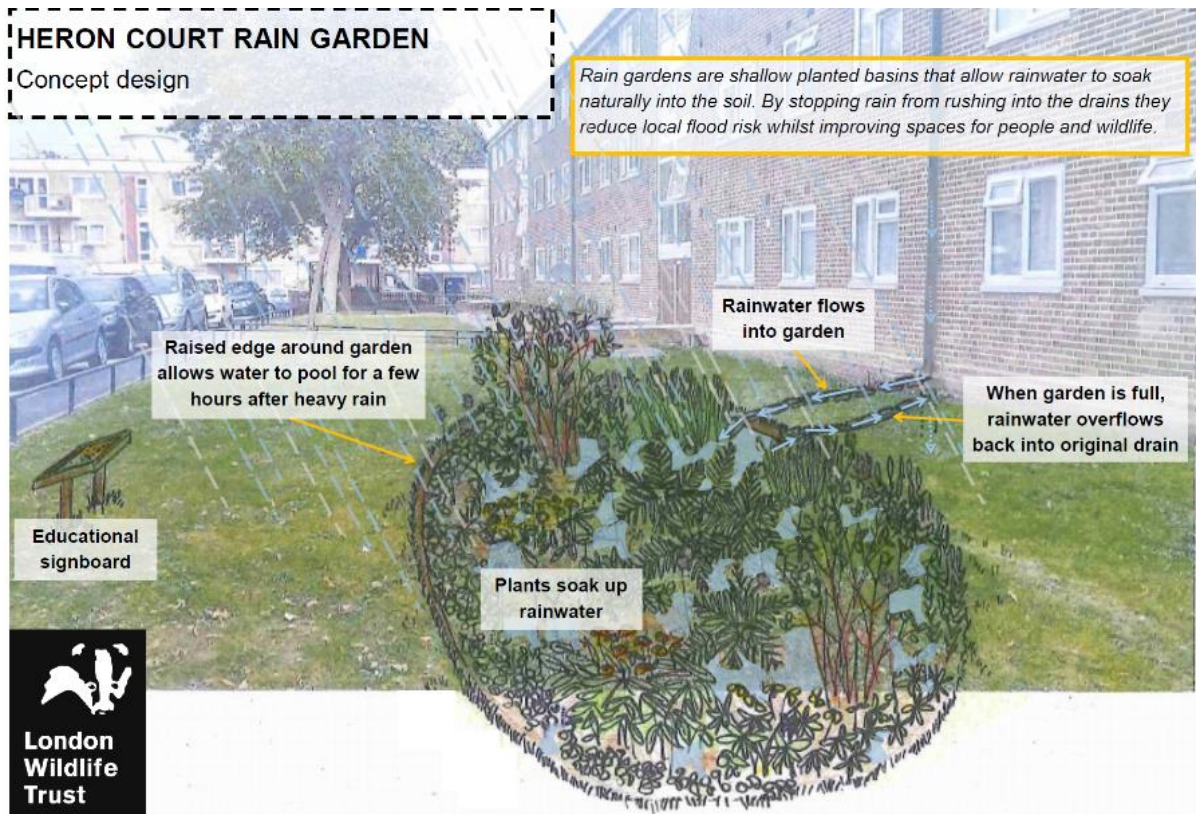


Fig 5: Garden - final design



Fig 6: Garden immediately post planting



Fig 7: The rain gardens successfully storing water in a heavy rainfall event





Fig 8: Interpretation board allowing for rain gardens to continue to educate about SuDS