

Business Service Centre, Barry



SuDS used

- *Proprietary rain garden system*

Benefits

- *Filtration*
- *Contributes to biodiversity*
- *Contributes to amenity*

1. Location

Hood Road, Barry, CF62 5QN; 51°23'58.9"N 3°16'45.3"W

2. Description

Installed in July 2012, this was one of the first UK installations of this type of proprietary rain garden system. Vale of Glamorgan council installed 3 units at the Business Service Centre (BSC) car park to meet environmental quality standards and protect the newly revitalised Barry Dock.

The council decided to review the surface water drainage at the BSC car park, when a previous design using porous paving was proving unsatisfactory. As the overall parking is for 63 cars and the requirements from the Environment Agency (at the time, now Natural Resources Wales) and the

Association of British Ports who manage the marine environment of the docks, were that no additional pollution should be allowed to jeopardise the marine ecosystems, a robust treatment solution was required.

3. Main SuDS components used

Rain garden system is a self-contained unit that looks like a normal landscape feature from the surface, but contains a dual layer filtration system and effective inlet & outlet structures to accept and filter Stormwater runoff.

4. How it works

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5. Specific project details

Features like swales and reedbeds were not feasible as there was not enough room in this typical urban location, surrounded by buildings and infrastructure, some of which was protected. The 63 space car park was divided into 3 sub-catchments, each served by a single rain garden unit. The treated water then discharges directly into the Barry Dock.

6. Maintenance & operation

The manufacturer provided the first year of maintenance to ensure that the plant survives the transplant shock involved with being moved from a nursery into an urban environment and successfully takes to the new surroundings. The system requires an annual inspection and litter pick, along with removal and replacement of the mulch layer.

Now at nearly 6 years old, the original plants are still thriving and continue to show new and improved growth year or year.

7. Monitoring and evaluation

A 2017 return visit by the manufacturer demonstrated that soil infiltration rates through the engineered soil have been maintained effectively by the ecosystem.

8. Benefits and achievements

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9. Lessons learnt

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10. Interaction with local authority

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11. Project details

Construction completed: *July 2012*

Cost: -

Extent: 2400 m²

12. Project team

Clients	<ul style="list-style-type: none">Vale of Glamorgan Council
Manufacturer	<ul style="list-style-type: none">Hydro International

13. Images and illustrations



Fig 1: Biofilter unit with combined kerb inlet and channel drain inlet



Fig2: Infiltrometer testing



Fig 3: Installation of mulch layer