



SUDS (Sustainable Urban Drainage Systems)

Floating reed-beds

Canon's Rd, Canon's Marsh, Bristol

Floating reed-beds

Landscape Architects:
Grant Associates,
Bath

Engineers:
Arup

Reed Bed & Reed Supplier:
Yarningdale Nurseries Ltd., Warwick

Developer:
Crest Nicholson Regeneration South West, Bristol

Completion:
2008



The floating reed beds are located on the north side of the Floating Harbour within the Harbourside development at Canon's Marsh. The location was chosen as they relate closely to a section of planted embankment that originally fronted the old gasworks nearby. This area was populated with self-seeded colonising trees and shrubs which included willow and elder, as well as some reeds, along the water line.

The design is intended to reflect the original ecosystem and create a new habitat area as part of the wider regeneration of the Floating Harbour.



Floating reed-beds

Reason for choosing SUDS:

The reedbeds were originally conceived as an extension of the embankment planting into the Floating Harbour, in order to create a new habitat in the heart of the harbour. However, Bristol City Council was keen to expand the role of the reed beds to serve as part of a Sustainable Drainage System (SUDS) system for Building 9.

Pros and cons:

Advantages: The floating reed-bed has brought more biodiversity into that area of the harbour, as well as the native species of plants and trees it is an attractive nesting site for birds etc. The reed-bed helps ensure runoff from the development is free from pollutants so that the water entering the Floating Harbour is clean. The planting creates an attractive soft edge to the Floating Harbour, adding visual interest. development and as a habitat for wildlife.

Disadvantages: The reed-beds require careful maintenance and are a potential target for vandals until the reeds, trees and other plants are fully established.

Technical details:

The SUDS system uses floating reed-beds for polishing surface water run-off from Building 9 before discharging into the harbour. The roots of the reeds will also improve the water quality in the harbour.

The reeds are planted within a prefabricated floating raft module that can be easily tied together on site. Modular construction allows the raft to flex in rough water conditions, making it highly resistant to storm and flood damage.

The materials used have been carefully selected to provide durability and resistance to UV degradation. The rafts are PVC-free and do not contain heavy metals. The wetland plants are grown from seed of guaranteed UK origin.

The floating reed-bed modules are each filled with natural coir fibre with very high lignin content; this material is slow to biodegrade and provides an excellent rooting medium for the plants in the first 1-2 years.

Maintenance issues:

Maintenance may involve litter picking; Repairing damaged pipe connections and cutting back dead reeds in the winter months. However, the frequency of maintenance needs is unclear at this stage. None of the tasks are particularly difficult, costly or intrusive.

Feedback received:

It provides an attractive sight within the harbour and has started to attract birds/wildlife.

Other:

Plants include: Common Reed (*Phragmites Australis*), Sedges (*Carex* spp), Narrow-Leaved Reedmace (*Typha Angustifolia*) and Yellow Flag Iris (*Iris Pseudacorus*), interspersed with groups of broad-leaved marginals, Purple Loosestrife (*Lythrum Salicaria*) and Water Mint (*Mentha Aquatica*).

Note: *Phragmites Australis* was grown from a Severn Estuary seed source.

