

# Retrofitting SuDS

Dolphins Road



**Sustainable Drainage Schemes (SuDS) reduce flood risk using a natural approach to water management within the urban environment, combining green spaces and sustainable water management.**

Existing highways drainage and sewer networks are increasingly being exceeded during periods of heavy rainfall. Exceedance of a combined sewer network, can lead to flooding containing sewage, therefore posing a risk of pollution to watercourses and coastlines.

Retrofitting SuDS can create greater attenuation and slow the flow of water, before water enters the existing drainage system.

Using green assets to manage water within the urban setting can create multifunctional spaces, providing many benefits such as:

- ◆ Reduced flood risk
- ◆ Increased biodiversity
- ◆ Recreational areas
- ◆ Improved water quality
- ◆ Increased resilience to climate change
- ◆ Improved groundwater recharge
- ◆ Improved liveability for the community
- ◆ Enhanced educational areas

**Downs Road** suffered from frequent flooding in heavy rainfall, with water collecting at the topographical low points causing flooding to several residential properties. The gradient of Dolphins Road which leads to Downs Road contributed to the surface water which collected at Downs Road leading to flooding.

The flooding problems on Downs Road were a combination of sewer capacity issues and excessive runoff from the surrounding area, which the drainage infrastructure was not originally designed for. KCC worked with Southern Water, the sewerage undertaker, to understand the causes of flooding on Downs Road and to assess the options to manage this problem.

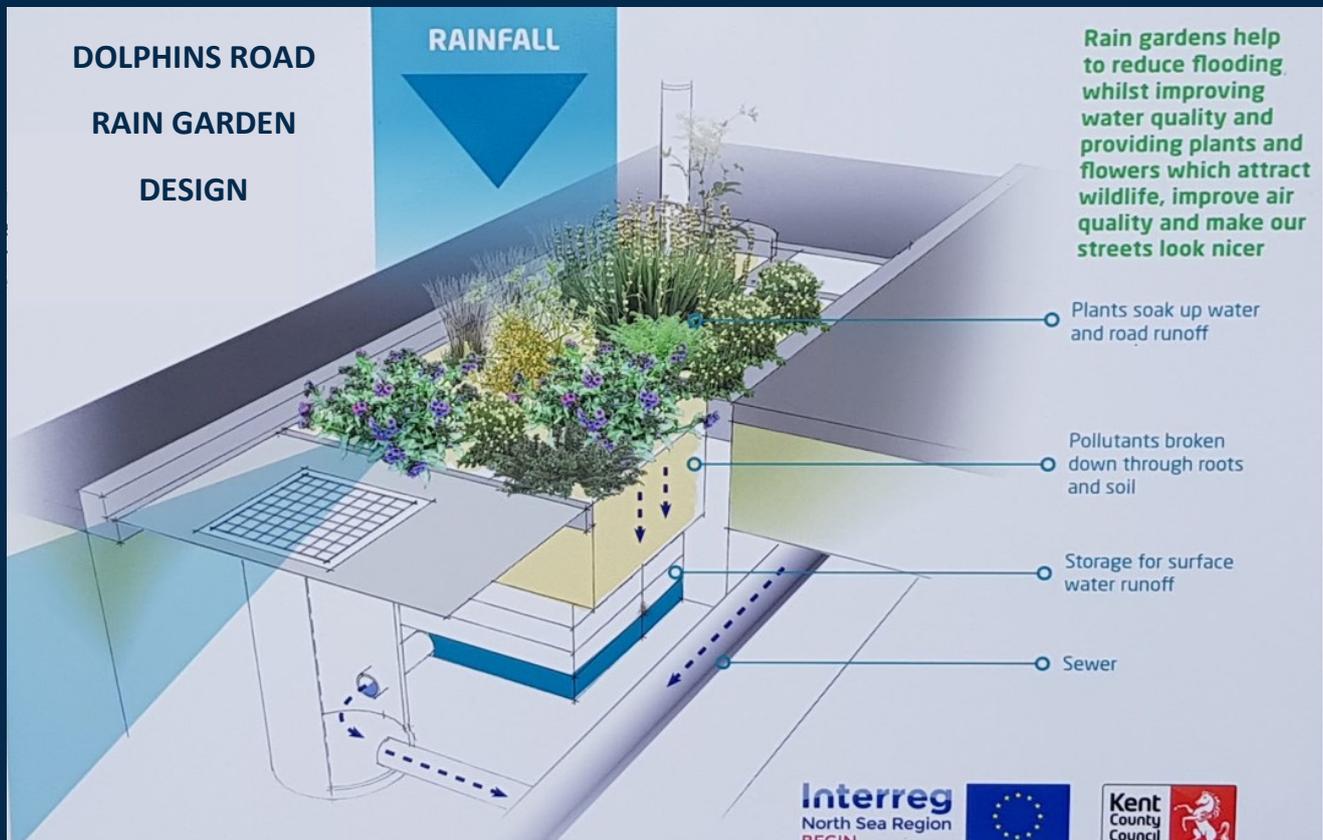


Completed rain garden in Dolphins Road

As it was not realistic to upgrade the existing sewer network, rain gardens were designed for installation on Dolphins Road and Wingate Road to reduce the highway water runoff.

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As one of the first highway rain garden schemes, the Flood and Water Management Team have continued to monitor the effectiveness of this project since the installation in 2017.

Further improvements have been made since completion to improve the efficiency. Gravel filled cores were added to the rain gardens to ease the conveyance of collected water into the storage tanks. The weir edging strips have been reset to improve the flow of water into the rain gardens due to the steep gradient of the road.

The rain gardens have proven successful and the frequency of flooding has reduced.



Completed rain garden in Dolphins Road