

CASE STUDY



from
Southern
Water.

Installing SuDS to reduce surface water flooding in Margate

Background

Frequent flooding is experienced in areas around Margate's railway station on the Kent coast, particularly on the highway of the A28. The flooding is primarily caused by lack of space in the sewer system for the water and is made worse by large amounts of surface water run-off from roads, roofs, driveways, and pavements in the upstream residential areas.



Kent County Council (KCC), who act as the Lead Local Flood Authority (LLFA), worked in partnership with technical advisor Stantec to consider ways to reduce the run-off reaching the downstream risk areas. It was determined that the best way to do this was by using the existing open space at George Park to install sustainable drainage systems (SuDS) to manage the excess surface water.

Our approach

- **Joint funding:** As well as managing surface water, the SuDS will help reduce the 'heat island effect' – when urbanized areas experience higher temperatures than outlying areas. This allowed KCC to apply for funding under the Interreg Cool Towns project. The scheme also benefitted from funding from the EU Interreg North Seas Region project Blue Green Infrastructure with Social Innovation (BEGIN).
- **Careful planning:** Following assessments and feasibility studies, the final scheme was designed with direct input from residents. Customer ideas and insight were taken into consideration when planning, with KCC involving residents to help encourage visitors to the park and an overall feeling of community.
- **Future-proofing:** The scheme was designed with climate change in mind, and was built to be resilient to the extra rainfall we expect to see in coming years as a result.
- **Installing SuDS:** SuDS are an ideal solution to manage surface water as they can be used to manage run-off from a variety of sources including roads, roofs, car parks, pathways, and do so while actively giving back to the environment by boosting local biodiversity and encouraging pollinators. A combination of swales, tree pits and retention basins were used for this project.



Outcome

This project has allowed for 1.6 hectares or 16,000 square metres of impermeable area to be managed. This means that all the surface water within those 16,000 square metres is now being absorbed and managed by the SuDS, rather than collecting on hard surfaces and causing flooding.

The scheme has been well received by locals, and the park has seen more footfall since the improvements were made, particularly from families. Lessons learned from this project will be used to inform and plan future interventions.



George Park swale and tree pits

Benefits

- Reduced flooding and storm overflows in local area.
- Improved quality of community green spaces and increased local biodiversity and pollinators.
- Improved carbon offsetting thanks to SuDS acting as a carbon sink.
- Reduced disruption and risks associated with flooding on a major highway.

Glossary of terms

Lead Local Flood authority (LLFA): County councils and authorities who lead in managing local flood risks.

Sustainable Drainage Systems (SuDS): An eco-friendly way to create better drainage of rainwater and groundwater in communities.

Feasibility study: An analysis of the critical aspects of a project to determine the probability of completing it successfully.

Biodiversity: All the different kinds of life you'll find in one area - the variety of animals, insects, plants, fungi, and even microorganisms like bacteria that make up our natural world.

Swales: Dipped stretches of land created in the lowest point of the area, so surface water naturally flows into them. They're planted out with water loving plants, so the excess water is put to good use.

Tree pits: A cavity specifically designed for planting trees in, often equipped with root barriers and other features to ensure healthy trees that stay where they are planted.

Retention basins: Sometimes referred to as 'dry ponds', these man-made reservoirs temporarily hold excess water flows so the collected water can naturally be absorbed into the earth.

Carbon sink: A natural environment that can absorb carbon dioxide from the atmosphere.