Sustainable drainage systems planning tool.

Case study – 2017/18.

Sustainable drainage systems (SuDS) planning tool.

Much of London has a combined sewer system, which means it carries both rainwater and foul water. A combination of climate change, population growth and urban creep is putting pressure on the capacity of our sewer network, and increases the risk of sewer flooding. Sustainable drainage systems (SuDS) can be designed in a variety of ways to manage rainwater, reducing the speed and volume of rainwater flowing into combined sewers, and reducing the risk of sewer flooding.

Background.

Some of our sewerage network is more than 150 years old and was designed to serve a much smaller population than London supports today. At the same time as population growth, more green and natural areas are being paved over, which means rainwater can't soak away into the ground. Instead it flows into our sewers, where it can increase the risk of sewer flooding and spills into the environment from combined sewer overflows. Climate change is also increasing the risk of more intense rainfall.

We've now developed a SuDS planning tool which can identify areas of Greater London with the highest risk of sewer flooding and pollution events, based on current sewer capacity levels. This can help us identify what we need to do to reduce these risks.

- **Identifying areas at risk of sewer flooding, and the most effective and sustainable solutions.**
- **Shortlisted for the Data Project of the Year Award by the Water Industry Achievement Awards '18.**

Collaborative working.

We're working with lead local flooding authorities, stakeholders and environmental organisations to identify areas where interventions are needed, and make sure that the most efficient opportunities are implemented.

By developing this SuDS planning tool, we've identified suitable partnership projects with third parties to support the London Sustainable Drainage Action Plan.

SuDS planning tool.

Our SuDS planning tool for the Greater London area now allows us to identify, target and improve the available capacity of our sewers in a more sustainable way, without having to physically increase the size of our network.

This planning tool uses a sewer capacity model to highlight zones in Greater London where sewer capacity is already a challenge, and where that capacity will deteriorate over time.

A number of different parameters such as climate change, urban creep, population growth, physical asset data, rainfall depth and modelled infiltration can be incorporated into the model.

This data is displayed on a dashboard, so that areas which need our attention can easily be identified. The model can also suggest types of intervention, and where they may be needed to reduce risks in specific areas.

The dashboard is interactive, letting our teams filter data parameters including cost effectiveness and location. This quickly allows our asset planning teams to compare the potential cost of the chosen intervention against how well it reduces risk.

Our dashboard data can be uploaded and shared online as a web application, and flexibly accessed through devices like laptops, tablets and smart phones.

Thames Water