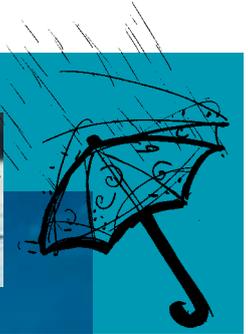


Rockflow in the practice of urban planning

Case Schimmert, NL



Situation before implementation Rockflow

Situation after implementation Rockflow

Location	Schimmert, Municipality Nuth The Netherlands
Installation date:	July 2017
Application	Low density > Pedestrian area
Design:	45 mm in 30 min.
Catchment area:	12.000 m²
System size	550.000 liter + 50% extra Project volume 820 m³
Amount of Rockflow elements:	8000 pieces
Engineer:	Royal HaskoningDHV

Quote resident:

It collects the water into it. Once the rain has calmed, the water flows through the buffer back into the sewer. Perfect System! It was very disruptive. Especially with heavy downpours, it used to be really awful here. All the rainwater flowed into the street and houses."

Casus Schimmert



Situated in the South of the Netherlands the village of Schimmert has experienced surface flooding regularly. With the heavy rainstorms, which seem to be much more frequent in recent years, the current sewer system cannot handle the sheer amount of water in such a short time.

On top of that the run-off water is very muddy with heavy loam from the surrounding hills. The resulting flooding has caused serious damage to resident's cellars, garages and even houses as well as other water related problems. The problem was resolved in 2017 however, when Lapinus working together with the Royal HaskoningDHV engineering company, installed a Rockflow water management system beneath the adjacent schoolyard. The rainwater running off the roofs of the neighbouring school, gymnasium and the playground is captured by Rockflow. In fact, the system is a subterranean buffer made from stone wool elements connected to gullies and wells. The installation captures around 500,000 litres (500 m³) water, which is then slowly discharged to the sewer system. This is equivalent to a 'once-in-hundred-years' rain shower. Drainage of the buffer to the sewer is delayed by 4-20 hours. After 24 hours the buffer is ready to take on the next big downpour. In order to prevent the muddy water from blocking

the buffer completely, a new stone wool based filter system was developed. This filter will take out any suspended particles before rainwater enters the stone wool, ensuring optimum operation with a minimum of maintenance.

Rockflow from Lapinus is used for:

- the prevention or reduction of local flooding
- the reduction of peak discharge to the sewer system
- the reduction of operational (maintenance) costs

Ronald Pluijmakers. Projectmanager at Royal HaskoningDHV about his experience with Rockflow:

"My colleagues of the department 'Water' were collaborating with Lapinus in the development of Rockflow for application in the public space. I heard about their involvement at around the same time they were looking for a suitable pilot project. After learning about Rockflow I was quickly convinced of the benefits and felt it would be a perfect fit with the project at the elementary school in Schimmert which I was working on at the time. I pitched the idea to the municipality and managed to convince them rather quickly. Together we made it into a very successful first pilot.

Jos Last, Manager Project design and preparation at the Municipality of Nuth:

Looking purely at the hard surface of the school it may not seem like a huge amount, however it turned out to be around 5000 m². Together with the surface area of the playground it amounts to 12000 m². The space underneath the playground alone was too small to create enough buffer capacity. This meant we also had to include the available volume below the driveway towards the school as well. In this tight space we needed a solution that offers enough flexibility. Stone wool can easily be adapted to the space available and is very easy to handle; This is one of the biggest benefits of Rockflow if you ask me.
