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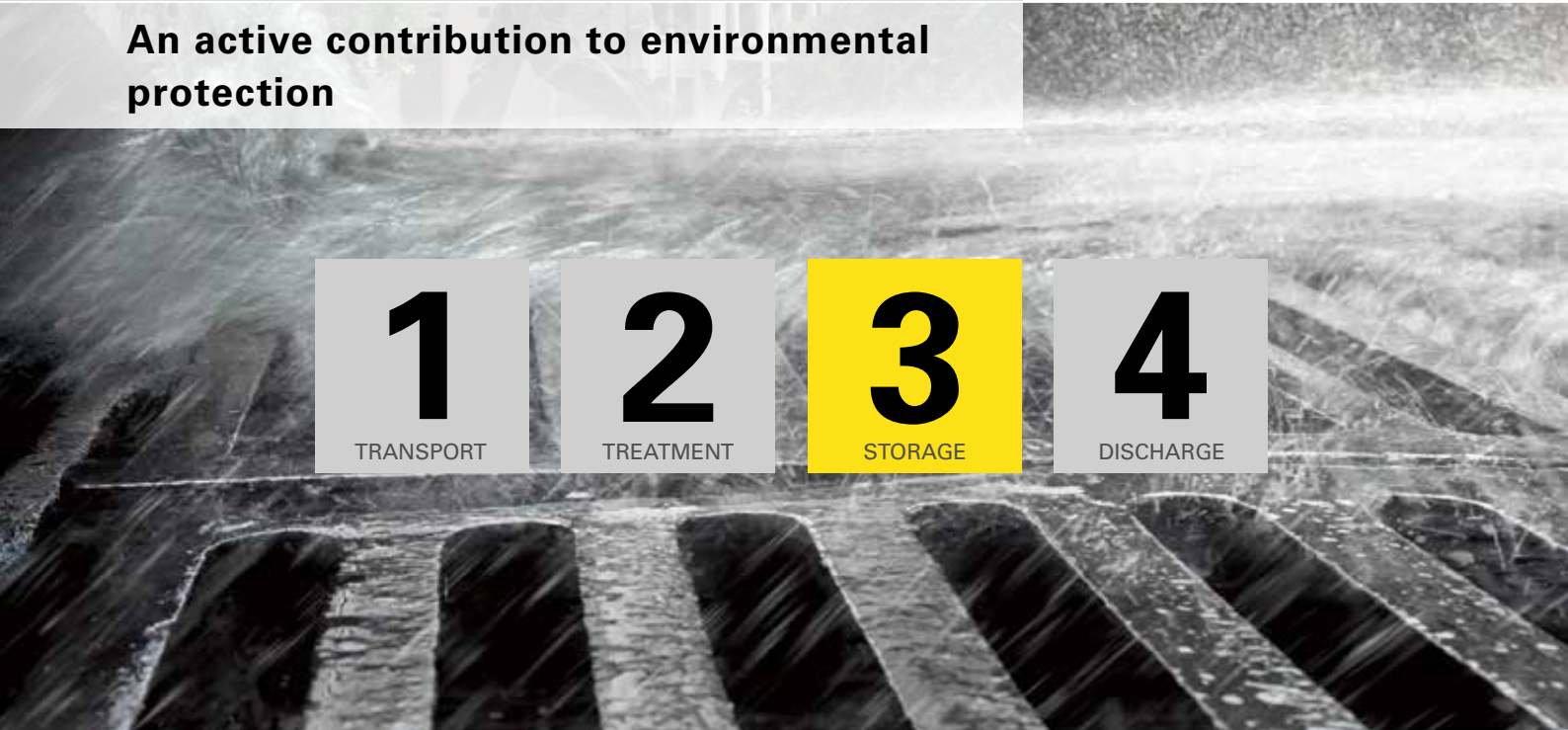
Storing stormwater

An active contribution to environmental protection



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Storing stormwater

Storing stormwater for any application

- **SickuPipe**
  pipe swale infiltration
- **MuriPipe**
  underdrained swale infiltration
- **Rigofill inspect**
  storage/infiltration system

Storing stormwater – an active contribution to environmental protection 3

Water is far too valuable to be wasted through the gully ...

The topic of decentralised stormwater management is gaining more and more importance in constructional engineering in federal states and municipalities.

Due to increased environmental awareness and rising costs for the construction and modernisation of sewers, demands are not to discharge stormwater in wastewater sewers but either store it as process water, e.g. for irrigation, car wash or use in toilets, and/or infiltrate it on the spot and thus return it to the groundwater. This way, new sewers to be built in the future can be dimensioned smaller and hence more inexpensively.

Retention of stormwater with subsequent infiltration or through controlled discharge benefits flood control and prevents flooding.

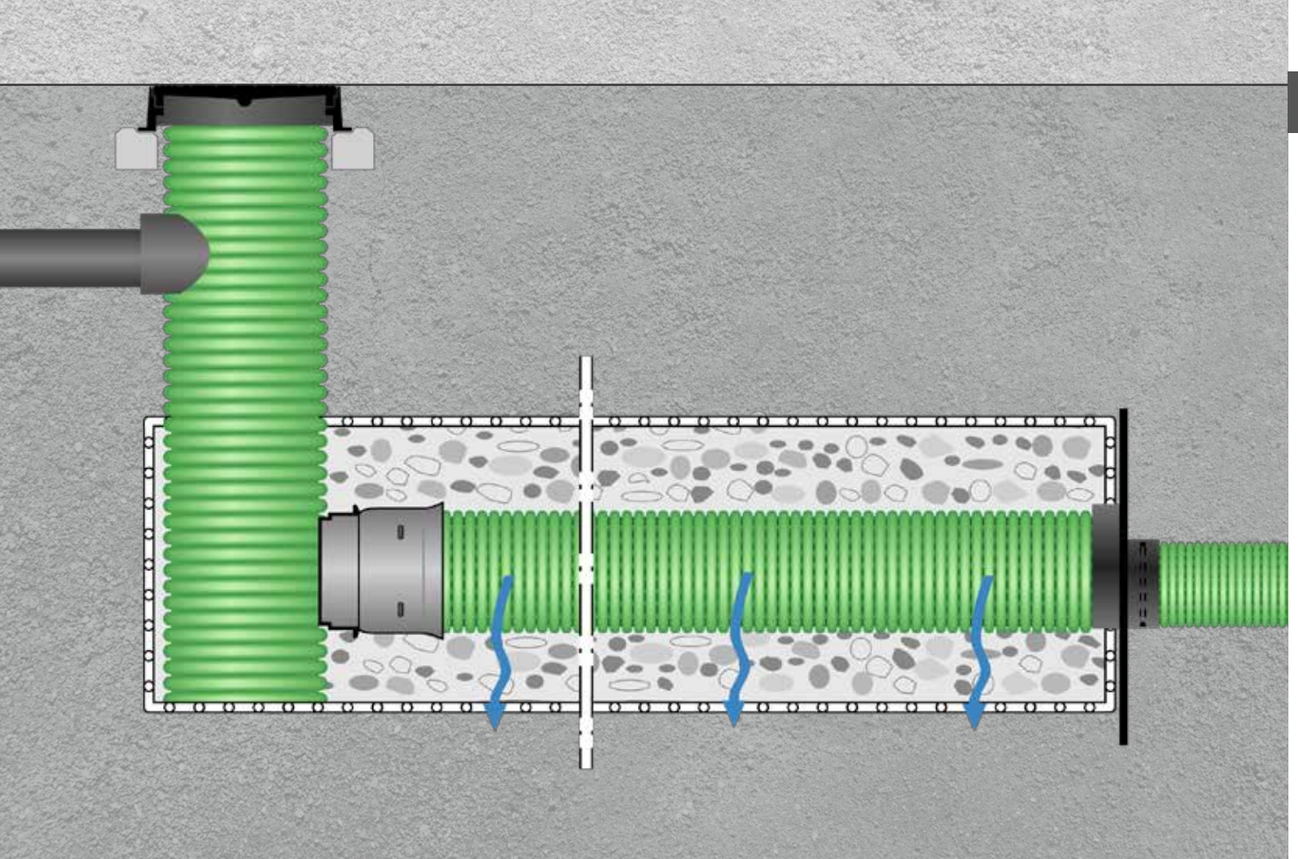
The high ecological efficiency of storage/infiltration systems is undisputed. According to the effective Federal Water Act (*Wasserhaushaltsgesetz*), nearby stormwater management has priority.

The objective of legislation and standards is to maintain the natural water cycle as much as possible in surface drainage in the future.

This should be achieved with decentralised methods of stormwater management.

STORAGE VARIANTS

Pipe swale	SickuPipe system
Underdrained swale system	MuriPipe system
Storage/infiltration system	Rigofill® inspect system



SickuPipe – carefully giving back to nature

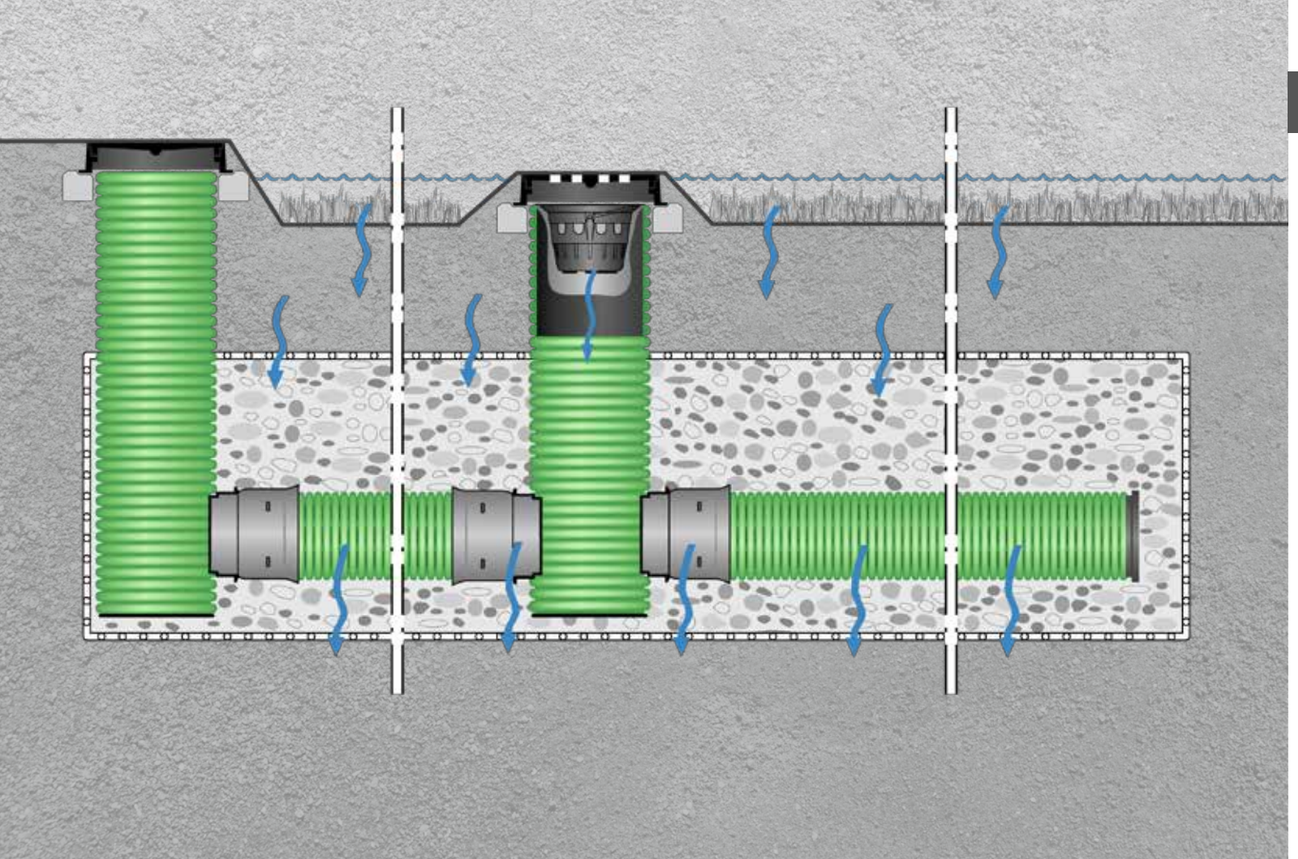
The ecological pipe system for the decentralised infiltration of stormwater and surface water

The German Association for Wastewater (*Abwassertechnische Vereinigung, ATV*) stipulated the regulations for „Planning, Construction and Operation of Facilities for the Percolation of Precipitation Water“ (*Bau und Bemessung von Anlagen zur dezentralen Versickerung von nicht schädlich verunreinigtem Niederschlagswasser*) in DWA-A 138. It recommends spread infiltration which directly diverts stormwater into the subsoil on the spot through backfilled pipe swales. The SickuPipe pipes lead to an ideal water distribution in the planar gravel storage.

- high storage volume
- ideal perforation area
- economic installation
- light weight

SickuPipe
perforated swale infiltration pipe

- totally perforated pipe (TP)
- DN/ID 300
- total perforation area ≥ 180 cm²/m



MuriPipe – stores carefully and transports safely

The underdrained swale system for time-lagged discharge of stormwater

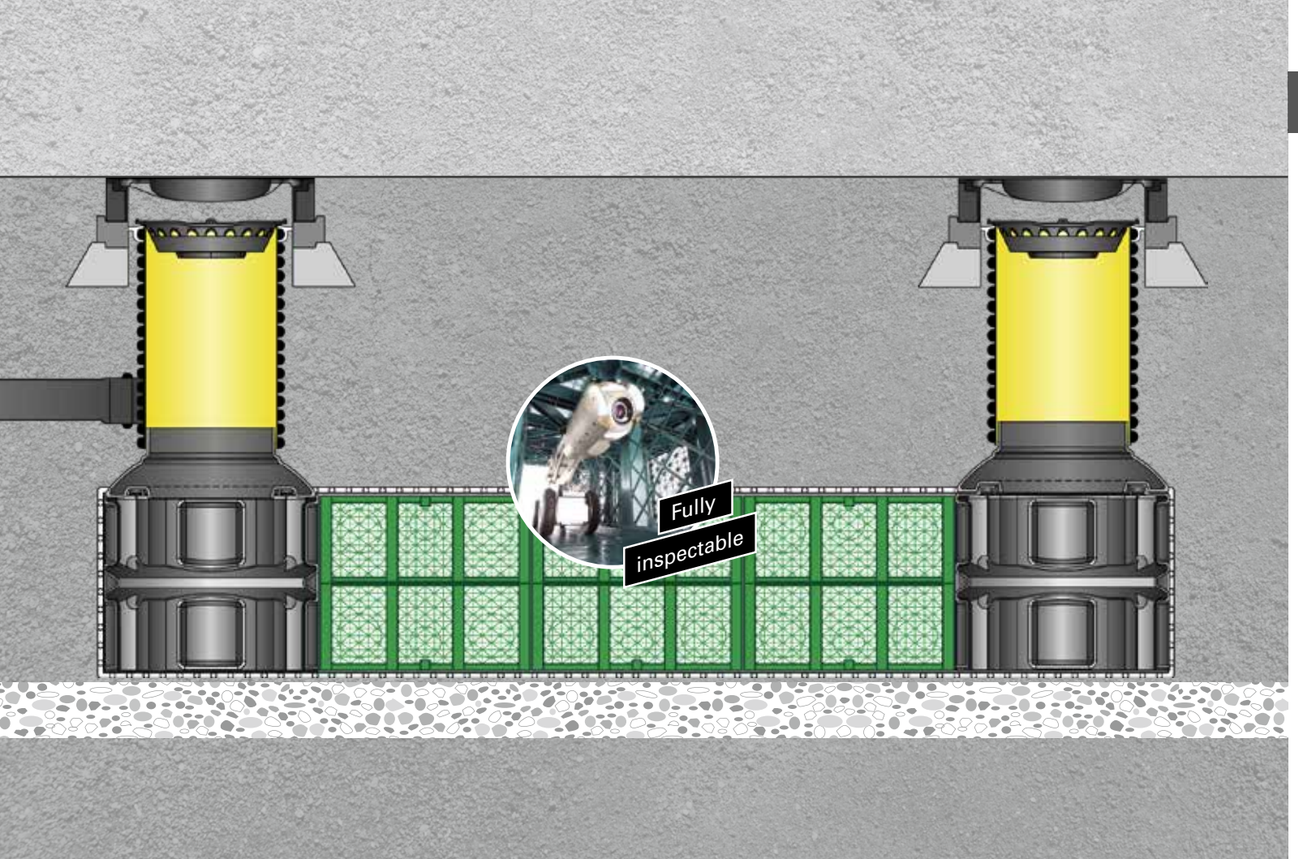
Simple principle, convincing effect. The core component of an underdrained swale infiltration is a vegetated infiltration swale and a gravel swale underneath with a distribution/transport pipe.

Stormwater is stored and filtered in the swale before it enters the underdrained swale system where it distributes evenly through MuriPipe. The advantage is that the stormwater passes through a vegetation layer (the grass layer) and enters the groundwater thoroughly cleaned. With little ground permeability there is only partial infiltration – the remaining water accumulates and flows through the throttle shaft into the natural receiving waters.

- ideal infiltration performance
- high treatment effect
- simple design
- high safety coefficient

MuriPipe
perforated swale infiltration pipe

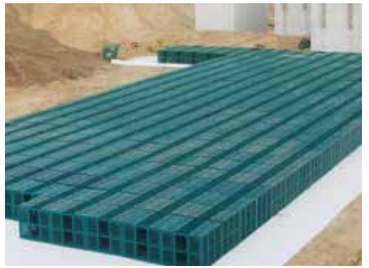
- totally perforated pipe (TP)
- DN/ID 200
- total perforation area ≥ 150 cm²/m



Rigofill® inspect – compact, efficient and versatile

Highly efficient storage/infiltration module with inspection tunnel

Storage/infiltration systems temporarily collect stormwater and discharge it later. In addition to infiltration using underdrained swale systems, pipe swales, and gravel swales common in the past, more and more storage/infiltration systems are being built today. The storage space of the storage/infiltration system consists of numerous Rigofill inspect modules which can be combined three-dimensionally to form large systems. The advantage of this method is that the void ratio is up to three times larger in these infiltration systems than in gravel swales which saves space and excavation work. Rigofill inspect is a modular system which is characterised by high flexibility, rapid installation and a high level of user-friendliness.



- huge storage capacity
- very little space required
- weight and handling: light
- strength: exceptional

Rigofill® inspect
Highly durable and hard-wearing storage/infiltration module

- DIBt approval: Z-42.1-473
- suited for HGV 60

Our services

Any task related to handling stormwater presents individual challenges. Framework conditions of individual projects vary significantly.

We have many years of practical experience with all aspects of design and construction of drainage systems.

We provide local technical assistance during all project phases. We design complete systems, dimension the system components using state-of-the-art technology and help you realise your construction project.

In addition to construction companies and design engineers, our consulting services are particularly interesting for builders / project developers who want to sustainably protect their investment by economic and durable solutions.

Of course, we also provide you with:

- comprehensive information
- CAD templates
- tender documents
- installation and maintenance manuals
- structural analyses
- software
- project questionnaires
- local workshops and training programmes

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Documents and software

Stormwater competence

In addition to basic knowledge and planning support for stormwater management, the manual also presents new and advanced products and systems. Anyone interested can get detailed information about diversity and details.

www.fraenkische.com

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Select **competence:**

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Product descriptions

Rigo®Plan professional dimensioning software

RigoPlan professional can be used to design different types of systems, such as infiltration systems, retention basins with overflow control and stormwater treatment systems.

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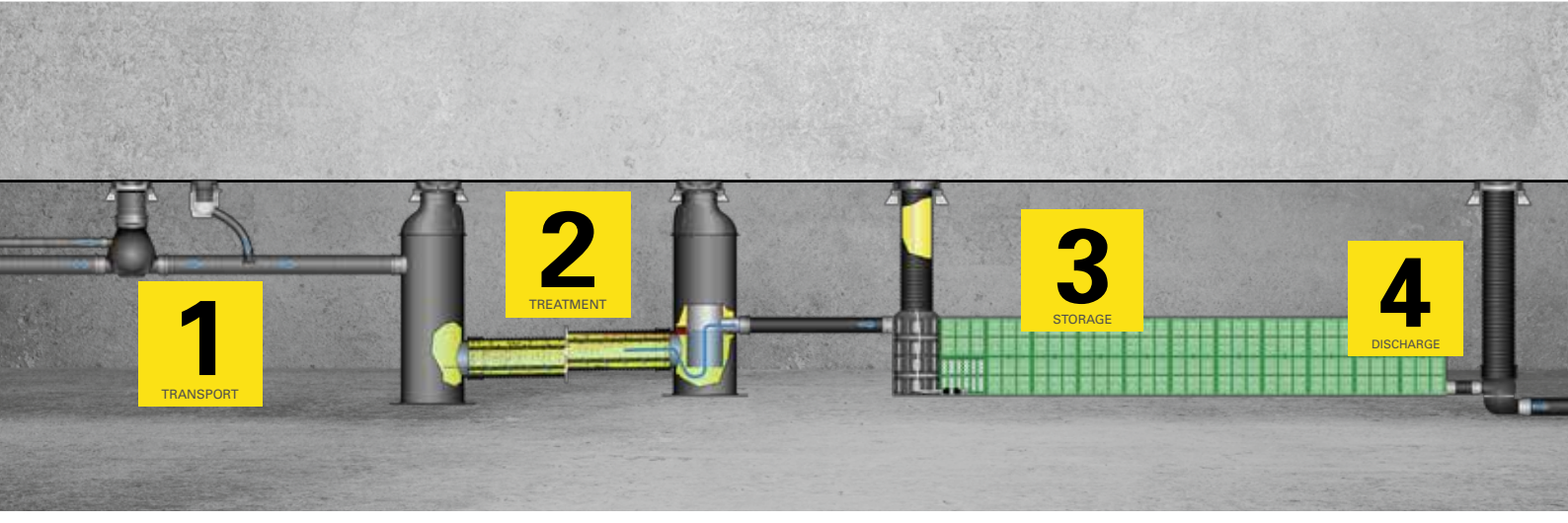
Stormwater management



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