

# Project F208: Performance analysis of combined sewage treatment plants

What technologic equipment do storm-water tanks need to have when current and future requirements are taken into account? What evaluation methods are appropriate for the reliable assessment, using standardised criteria, of the performance of combined sewage treatment plants on the basis of operational data?



The storm-water tanks in the German states of Baden-Württemberg and North Rhine-Westphalia will be categorised, to enable analysis of the performance of the tanks. A survey to compare the available data and actual operational conditions will then be undertaken on random samples. Average sedimentation efficiencies will be recorded using water samples and on-line measurements for a selection of these tanks. Performance in terms of sedimentation will be analysed in detail.

Theoretical analyses, semi-commercial-scale model tests and commercial-scale tests on lamella clarifiers, will be undertaken in order to improve sedimentation performance. The potential for improved performance will be evaluated, and proposals drafted for future dimensioning and design aimed at assuring the reliable operation of these systems.

The conclusions will consider the potential for

rationalisation and improvement of all the tanks.

## **Project title**

“Monitoring and optimisation of combined sewage treatment performance”

## **Project management**

Karlsruhe Institute of Technology (KIT)

## **Project participants**

- Aggerverband (water authority)
- Dahlem – Beratende Ingenieure GmbH & Co Wasserwirtschaft KG (water-management engineering consultancy)
- University of Applied Sciences Münster, Faculty of Civil Engineering, Laboratory for Hydroengineering and Water Management
- IKT - Institute for Underground Infrastructure
- UFT Umwelt- und Fluid-Technik Dr. H. Brombach GmbH (environmental-engineering consultancy)

## **Client**

Ministry for Climate Protection, Environment, Agriculture, Nature Conservation and Consumer Protection of the German State of North Rhine-Westphalia (MKULNV)

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