

CAVES, FRANCE

Caves business district: servicing work includes sustainable stormwater management



Industry:	Site development
Sub-industry:	Stormwater management
Location:	Caves, France
Product:	OSMORIA™ Geoclean®

Overview

In January 2021, the Communauté d'Agglomération du Grand Narbonne undertook a project to develop an open-air infiltration basin for roads in Caves, France. This project aimed to create a sustainable solution for water pollution control using the OSMORIA Geoclean Azur active oil-biodegrading aquatextile. The basin was designed to collect run-off water polluted by hydrocarbons and promote its natural biodegradation.

Challenge

The project faced several challenges. The existing road width was only half of the planned final roadway width, measuring 2.5 m, and lacked sidewalks. The soil in the area, with hydraulic conductivities between 10^{-4} and 10^{-5} m/s, was favorable for infiltration, allowing stormwater management at the plot level. Two open-air infiltration basins were designed to handle the run-off water from the future 10 m wide roadway. However, during the initial phase, only half the width of the road (2.5 m) contributed to the run-off water directed to the basins.

**OSMORIA Geoclean aquatextile
treats 100% of run-off water.**

CASE STUDY

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Solution

The OSMORIA Geoclean aquatextile provided an effective and environmentally friendly solution. This aquatextile fixes hydrocarbons, including PAHs, and boosts their natural biodegradation over the long term. The run-off water from the road, polluted by hydrocarbons, is collected in two open-air infiltration basins. The bottom and slopes of these basins are covered with the active oil-biodegrading aquatextile, which acts as a barrier to the infiltration of hydrocarbons while stimulating their biodegradation, allowing only depolluted water to infiltrate.

The basins were designed to handle rainwater volumes corresponding to a 100-year rainfall. The northern infiltration basin (plot U1467) measures 65 m in length, 2.6 m in width, and 0.4 m in depth, providing a total infiltration area of 210 m²

and a working volume of 65 m³. The southeastern basin (plot U1410) measures 65 m in length, 5.5 m in width, and 0.5 m in depth, offering an infiltration area of 430 m² and a working volume of 190 m³. Both basins are covered with a 20 cm layer of permeable soil, allowing for green cover at the surface.

OSMORIA Geoclean lasts for over 100 years, maintaining its effectiveness in fixing hydrocarbons for the same duration. The aquatextile's permeable structure and mineral nutrients provided by the textile matrix support rapid colonization by endemic microorganisms, enhancing long-term hydrocarbon degradation. OSMORIA Geoclean provides an easy, affordable solution for managing diffuse and accidental pollution while protecting the environment. The aquatextile-equipped basins blend harmoniously into the landscape, offering a durable, maintenance-free solution for run-off water management.



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