

# Highway Drainage

Fildrain Roadside Drainage, S5 Wrocław - Poznań Expressway, Poland



## Project Description

After successfully finishing the three key highways in Poland, A1, A2 and A4, the Polish Transport Agency drew up an ambitious construction plan to deliver an expressway network that will connect these highways, further improving the infrastructure of Poland. Expressway S5 is a crucial part of this network, going through three Voivodeships (provinces), connecting five major cities: Wrocław, Poznań, Gniezno, Bydgoszcz and Grudziadz, and making the connection between the A4 and A1 highways. The project was delivered on time.

## The Challenge

The S5 expressway is recognised as one of the Polish Government's priorities in the programme period 2014 to 2020. To gain maximum benefit, a tight programme was ordered. Methods allowing rapid construction with reliable quality assurance were recognised at early design stage. A major feature of every highway is efficient and adequate drainage. The typical Trans European Highway standard calls for "French Drains" consisting of an 800mm deep by 500mm wide trench lined with geotextile and filled with imported graded gravel. This is a costly, time consuming installation, which had the risk of delaying the construction.

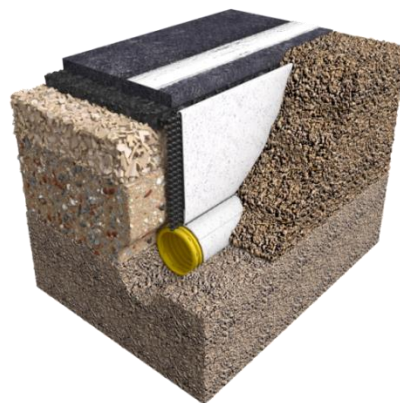
## The Solution

The designer specified a prefabricated geosynthetic solution, which consists of a geocomposite with a geotextile sock, allowing a flexible pipe to be quickly threaded through on site. The whole "fin drain" is then dropped into a narrow trench and backfilled.

## Project Information

Client	General Directorate for National Roads and Motorways (GDDKiA)
Contractor	Dragados S.A.
Distributor	Geotica Sp. z o.o.
Products	ABG Fildrain
Quantity	14,600 linear metres

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| Benefits | <ul style="list-style-type: none"><li>• Rapid installation in narrow restricted working area</li><li>• Re-use of excavated materials</li><li>• Avoid quarried stone</li><li>• Carbon saving</li><li>• No materials to landfill</li></ul> |
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ABG Fildrain Roadside Drainage

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**ABG Fildrain** was used with an integral draw string to help pull the pipe through the sock. A thin trench was excavated, and **Fildrain** was simply rolled out along the road. Once the pipe was fitted, **Fildrain** was dropped into the trench and backfilled with the excavated material. Using **Fildrain** allowed for 50% savings on material and labour costs, with 75% savings on installation time. One standard Euroliner of **Fildrain** is equivalent to 260 loads of drainage stone.

## The ABG Service

In close cooperation with Geotica, ABG provided a technical solution and the requested data to achieve approval for the product. **Fildrain** was manufactured at a bespoke width and pipe sock diameter and delivered to site for easy and cost-effective installation.



The pipe was pulled through the sleeve using the integral draw string provided



One 50m roll of **Fildrain** is equivalent to 20 m<sup>3</sup> of stone and is easy to install



**Fildrain** and pipe placed in the trench and backfilled with the excavated material. No material to landfill

Contact ABG today to discuss your project specific requirements and discover how ABG past experience and innovative products can help on your project.