

# Contaminated Land Capping

Brownfield Drainage, Pozidrain, Honda Car Park, Avonmouth, UK



CASE STUDY



## Project Description

The Honda Factory Car Park site is located on the land bordering the mouth of the River Avon, near Bristol. This part of Avonmouth is one of the most contaminated sites in south-west England. It has a long industrial history as a munitions and mustard gas plant in 1917, zinc, lead and sulphuric acid production until 1972 and production of agrochemicals and pharmaceuticals until 2008, when the site was closed. Site investigations undertaken during the planning application process for redevelopment of the site detected numerous contaminants.

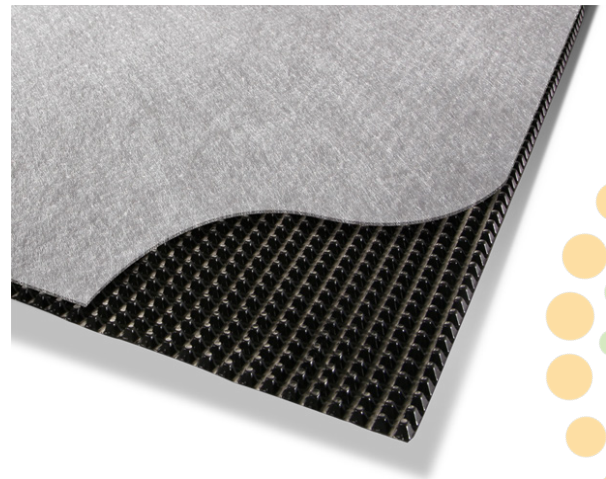
## The Challenge

The requirement was to minimise the use of drainage stone and design a capping solution that would be fast to install over this large area. The traditional geosynthetic capping system comprising protection geotextiles, impermeable geomembrane and drainage stone was considered outdated and costly. A cost saving, innovative design was required to enable the economic redevelopment of this contaminated site. A key aim of the redevelopment strategy was to minimise off-site disposal and enable the contaminated materials to remain in-situ.

Site investigation identified multiple contaminants, representing a significant risk of groundwater pollution if rainfall and surface water were allowed to percolate through the contaminated sub-formation. An effective capping and drainage solution was required in order to enable the contaminated soils to remain on site, thus avoiding the significant costs associated with a traditional dig and dump option. The developer approached Aspinwall consultancy to design a cost effective contaminated land remediation solution for this environmentally sensitive location.

## Project Information

<b>Client</b>	Honda
<b>Contractor</b>	GSE Group
<b>Consultant</b>	Aspinwall
<b>Products</b>	Pozidrain 6S250D/NW8
<b>Quantity</b>	72,000m <sup>2</sup>
<b>Benefits</b>	<ul style="list-style-type: none"><li>• Drainage &amp; capping membrane</li><li>• High flow capacity</li><li>• Double textile for effective reinforcement &amp; separation</li><li>• Rapid installation</li><li>• Replaced 10,800m<sup>3</sup> drainage stone</li></ul>



ABG Pozidrain

ABG LTD

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a Bontexgeo Group company



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## The Solution

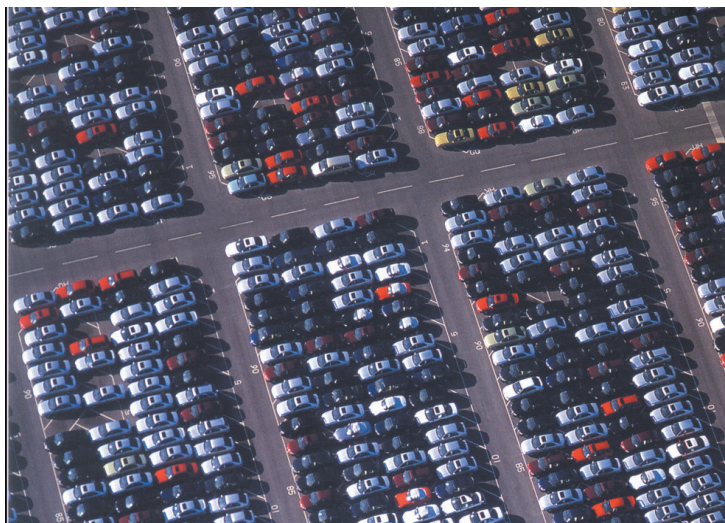
The designer worked with ABG to develop a cost effective capping solution using **Pozidrain 6S250D/NW8** which provides combined drainage, separation, capillary break, reinforcement and capping in a single geocomposite layer. The impermeable back drainage core of Pozidrain is the key feature that allows it to also act as a capping barrier. Inclusion of Pozidrain provided reinforcement, enabling the sub-base thickness to be reduced from 300mm to 150mm. Pozidrain geocomposite was installed on top of the contaminated sub-formation and covered with 150mm of type 1 material and permeable asphalt overlay. Proven chemical resistance in landfill applications ensured Pozidrain was suitable for this contaminated land site. The design and installation was approved by the Environment Agency.

## The ABG Service

ABG provided technical advice and design assistance on this project. This included supervision during the installation and liaison with the Environment Agency.



Large rolls enabled rapid installation



Pozidrain geocomposite drain below porous asphalt



Plant operating on 150mm of Type 1 backfill material

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