



Luton Dunstable Busway: Retention of top soil on steep embankments using Erosaweb; busway lateral drainage using Pozidrain

Luton Dunstable busway is a new construction connecting these two Bedfordshire towns with a fast frequent, reliable and high quality service.

Much of the route will run along the line of a disused railway running parallel to the A505 (Dunstable Road) and A5065 (Hatters Way). The busway comprises a twin track about 6 metres wide allowing vehicles to travel in both directions.



Installing Pozidrain Geocomposite drain at formation level

Project Information

Project	Luton Busway - Topsoil Retention on Embankments - Sub-formation drainage
Products	Erosaweb Pozidrain
Contractor	BAM Nuttall
Client	Luton Borough Council

Topsoil retention on steep slopes. Formation Drainage

Each track consists of a 180mm high kerb on each side which the guidewheels run along, and a concrete base to support the rear wheels.

The guideway itself will have a low noise surface, which, together with appropriate landscaping, noise barriers and other engineering measures will minimise the impact on neighbouring properties.

Building the Busway presented the design and build contractors, BAM Nuttall, with some interesting construction challenges with which ABG were able to assist using geosynthetic solutions.

Firstly, the Busway is built along a disused single track rail line much of it contained within embankments. In order to fit the 6m wide concrete busway plus the required safe zone without extending land take outside the existing boundary it was necessary to steepen the embankments along both sides.

Whilst this in itself was a relatively straight forward engineering challenge for BAM Nuttall providing the embankment with a green, vegetated finish proved

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more problematic as the slope of the re-profiled embankment was greater than on which unsupported top soil could be placed.

The solution lay with ABG Erosaweb, a three dimensional geocell product designed specifically to contain top soil within its cellular structure whilst vegetation establishes and provides long term erosion control as well as the required aesthetic finish.

Erosaweb is supplied in flat panels and then expanded on site to form the geocell structure. As it is opened onto the embankment it is anchored using steel pins before being in-filled with top soil and then allowed to vegetate either by natural seeding or by methods such as preseeded top soil or hydroseeding.

The second problem was the drainage requirement beneath the pre-cast concrete busway. Using a free drainage stone has implications on the volume of material excavated and carried from site as well as importing the stone to site.

The solution was to use ABG Pozidrain laid horizontally beneath the construction. Pozidrain provided the required drainage capacity at a fraction of the depth required for stone saving material



Embankments prior to Erosaweb installation



Pozidrain being covered over prior to installation of precast track sections

movements to and from site. Pozidrain was delivered in large rolls to site and was quickly and easily installed without the need for specialist plant or training.

Pozidrain drainage core with its impermeable back formed a barrier to prevent surface water entering the sub-formation thereby helping improve the CBR. In this application Pozidrain provided capping, reinforcement and drainage functions helping achieve the load bearing capacity required in the sub-formation.

Both solutions offered by ABG made a real contribution to the project in terms of money and time saved as well as minimising the environmental impact associated with material movements and depleting natural resources.