

Highway Drainage SuDS

Balancing Pond Erosaweb, A1 Elkesley Improvement, UK



Project Description

This Highways England project comprises a new grade separated junction and a new local link road which means that road users will not have to use the busy trunk route to access the village of Elkesley.

The scheme has improved safety and makes it easier to join or leave the A1, eventually allowing the national speed limit to be restored.

Carillion was awarded this design and build scheme and carried out the 1.5 mile (2.5km) upgrade with associated link roads.

The Challenge

Highway drainage, in line with the Sustainable Drainage System (SuDS) regulations, requires proper control of surface water runoff preventing flooding and pollutants from road surfaces flowing straight into watercourses. In flat countryside, such as the area around Elkesley, flooding can easily occur and so balancing attenuation ponds are necessary. These require lining to prevent infiltration into ground water reserves. Lining is normally achieved with polymeric sheeting which has a low friction angle susceptible to UV degradation and vandalism.

Water flows into the balancing pond via an inlet from the highway drainage system and the outlet is regulated to attenuate the water thus balancing the flow following a storm event. The challenge was to create an environmentally acceptable, stable, lined balancing pond at optimum cost.

Project Information

Client Highways England

Contractor Carillion

Consultant AECOM

Products Erosaweb GWX 100/300

Quantity 10,000m²

Benefits

- Sustainable solution
- Re-use of site soils
- Quick and easy installation
- Folds flat for easy handling
- Material cost savings
- Assists protection of liner



Erosaweb is manufactured in the UK by ABG.

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The Solution

The contractor chose a soil retention and erosion control geocellular containment system to hold a suitable amount of topsoil in place on top of the slippery liner. The honeycomb structure is anchored in a trench at the top of the slope beyond the liner edge and hangs down the slope. The panels are jointed together around the pond to form a continuous curtain. Topsoil is placed into the cells from the bottom up. The topsoil retained on the slope by the **Erosaweb** allows drainage through holes in the cell walls to prevent puddling within the cells. The result is a naturally planted SuDS pond which deals with surface runoff to national standards lined with the minimum thickness liner.

The ABG Service

Assistance with cost comparisons, installation suggestions and advice on topsoil quality requirements. Deliveries were palletised and the folded flat **Erosaweb** panels were easily handled on site.



ABG Erosaweb accelerates the growth of indigenous plants by creating ideal growing conditions. Plants need stable, moist topsoil to encourage early growth. The plant growth binds the surface layer through root growth. The 100mm thick layer of topsoil also protects the liner from puncture during maintenance visits.



Web is just overfilled with topsoil and left to self seed



The result a protected lined balancing pond

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