## River Gwenfro, North Wales, UK

The stream bank needed to be protected from erosion as the bank was modified to allow the development of the adjacent land for housing. Initially, gabion baskets were proposed but Salix provided a bioengineering alternative incorporating Rock Rolls, Pre-Established Coir Rolls and NAG V-Max erosion control geomats (P550 and C350). The bank protection is designed to withstand the expected flow velocities of over 3.5 m/s. Over 200 metres of stream bank was protected using this detail.



Above: Rock Roll installation at the toe of the bank



Above: The completed bioengineering solution.



Above: The bioengineering solution 8 weeks after installation, after a major flood event.



Above: The bioengineering solution 4 months after completion