Introduction and Problem
The North Carolina Department of Transportation had been experiencing constant soil erosion on Jackson Creek’s bank near bridge 82 in McDowell County. The erosion was affecting the integrity of the road embankment near the culvert.

Solution
As part of the road re-alignment project, the construction of a culvert wing wall was proposed by using a Mechanically Stabilized Earth (MSE) structure. Since the wall would be adjacent to a stream, a typical rigid MSE structure, like a concrete block system, could not be used. For environmental reasons, the North Carolina DOT chose to use its first flexible MSE wall structure, the Terrawall System. The wall design was developed by Triad Geotechnical Consultants and included a 12” gabion as a scour apron for erosion protection at the toe of the wall.

Country Boy Landscaping installed the Terrawall System. Upon completion of the wall, both the North Carolina DOT and the contractor were pleased with the ease of installation and the quality of the finished product. A high strength fastening system was used to expedite the installation process and make the installation of the Terrawall System less labor intensive.

Technical Characteristics
The Terrawall System is a structure made of double twist hexagonal woven wire mesh that uses galvanized and PVC coated wires for soil reinforcement applications. Wall units are supplied in bundles, which are folded flat, and shipped in specified measurements for the project, eliminating the need to cut on site. The Terrawall System consists of a fascia element with an “integral soil reinforcement tail” which is backfilled and compacted with structural backfill with the tail representing its reinforcement element. There is no connection between the two elements required.