

Asurvey of the Ecological Wall in Cabanas (A Coruña)

Client: Arias Hermanos, S.A.
Automation Unit: Datalogger 10CRX
Period for execution: August - September 2002

The extension of the AC-141 road between the towns of Cabañas and Goente in Corunna required the augmentation of the side of the mountain through the technique of ecological walls.

The ecological wall technique involves augmenting the mountainside through the execution of compacted layers of soil reinforced with an anchor mesh. Successive layers allow for reaching the planned. Level.

The slab in question has 240 m in length, 13 m in height at its highest point, and a parameter of 80° with the horizontal. In P.K. 1+100, and at the level of 101.2 m, an extensometric measurement point was installed, comprising two glass fibre extensometers of 4 and 5 m in length, respectively. The aim was to measure the true stretching of the mesh and, through the tension-deformation curve, approximate its real working strain. We also sought to locate the real critical circle of slippage, theoretically situated at 4.6 m of the slab wall. These figures are crucial to ascertain the suitability of the real tensions to those designed.

The difficulty of access called for automating readings through an automatic data collection system. This method allows for learning in real time the magnitude of the deformation of the mesh without having to send a technical staff member to the site. To do this a computer was installed on site to run a computer program designed for the collection and transmission of this data to another computer in our offices. Communication between the computers was through GSM. After the information was received in our offices, the pertinent reports were drafted.

