



## Case Study

**application** | Channel Erosion Control  
**location** | Talega Community, San Clemente, CA  
**product** | Mirafi® HP570 & Mirafi® FW500

**design engineer**  
**contractor**

**RBF Consulting**  
**Sukut Construction**

TenCate™ develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

### THE CHALLENGE

The continual erosion of the channel, erosion at the bridge abutments and storm drain outlets along the channel needed to be halted. The water velocity required the use of an articulated concrete block system. The Armorflex system using, Mirafi® FW500, was installed. There have been many projects in Southern California which have used Mirafi® FW500 under Armorflex class 50 and class 30 articulated concrete block (ACB).

Mirafi® FW500 is utilized because of its unique behavior. Mirafi® FW500's movement under the load of the concrete block results in great contact with the soil, producing phenomenal filtration results. Mirafi® FW500's construction also allows extensive plant growth. The plants are able to root between the individual strands and allow the vegetation to flourish while keeping the filtration characteristics intact.

A problem with the subgrade was not known until the grading operation commenced.

The channel subgrade was saturated and the contractor could not get the required compaction to allow the installation of the Armorflex® to go forward. Mirafi® HP570 was installed to combat the soft saturated subgrade.

### THE DESIGN

The high performance ACB system has been thoroughly tested, researched and provided the best solution for the Talega project. The ability of the ACB to conform to the bends, curves and changes in line grade were the primary factors in choosing this system. The channel

design called for the Armorflex® class 50 and class 30 ACB's with Mirafi® FW500.

### THE CONSTRUCTION

The contractor encountered some soft areas in the channel and could not meet the compaction



Mirafi® HP570 was installed to combat the soft saturated subgrade. After a lift of native soil, the compaction requirements were met and the articulated concrete block (ACB) system was installed using Armorflex® and Mirafi® FW500.



In limited areas, the contractor was unable to install large panels so single blocks were placed by hand.

The contractor first placed the Mirafi® FW500 (erosion control geotextile) in intimate contact over the surface. The irregular shaped basins and limited access were factors on how the ACB system was installed. The contractor was able to install large panels 2.44 m x 8.53 m (8ft x 28ft) over approximately 60% of the areas of the channel, but the limited access in other areas caused the contractor to hand place single blocks. Soil filling of the open-cell ACB system completed the installation.

**THE PERFORMANCE**

In the months after the installation, the channel is well on its way to becoming fully vegetated to match the surrounding environment. The system is a hydraulically sound and environmentally friendly erosion control practice. The system is restoring the habitat in an environmentally sensitive area.



Shortly after installation, the channel begins to vegetate.



This environmentally sensitive area in the Talega community is now hydraulically sound and promotes habitat restoration.

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