LOWER BUCK GULLY
NEWPORT BEACH, CALIFORNIA

Stream Restoration
Products: Galvanized & PVC Gabions

Introduction
Newport Beach, incorporated in 1906, is an affluent city in Orange County, California, 10 miles (16 km) south of downtown Santa Ana. The population was 85,186 at the 2010 census. Lower Buck Gully provides natural drainage from the coastal hills to the ocean.

Problem
Increased drainage from development and the proliferation of exotic plant species led to continual degradation of the stream. It was decided that the exotic plants would have to be removed and the stream bed stabilized.

Solution
After removal of the exotic plants, three gabion control structures were built in critical points within the stream bed. The site was very muddy and would have made other types of construction difficult, if not impossible. The gabion structures stabilize the bed, control water velocities, and provide a structural substrate for the planting of native species. Maccaferri gabions are an environmentally friendly solution. The flexible free draining nature of gabions make them ideal for this type of work. Construction of even the largest gabion structures can be accomplished in primitive conditions using simple tools. The gabion basket, filled with

Client
CITY OF NEWPORT BEACH, CALIFORNIA

Main Contractor
ENVIRONMENTAL CONSTRUCTION, INC

Designer
CITY OF NEWPORT BEACH, CALIFORNIA

Products Used
GALVANIZED & PVC GABIONS

Date of Construction
SUMMER 2011
natural stone and trapped sediments, becomes an excellent substrate for plants; often plants volunteer growth without manual planting.

The finished gabion structures exceeded all expectations, and were built on time and within budget in difficult conditions. The finished structure has had a positive effect on the local ecology. As the vegetation continues to grow, the gabions will become hidden, blending into the natural look of the stream. As a result, the stream will be able to handle increased storm water flows due to the stabilized bed, and newly planted native species will be protected from accelerated erosion and high velocity flows.