CASE HISTORY
Ref: USA099 - Rev: 00, Issue Date: 5.15.2013

72” WATER TRANSMISSION LINE PHASE 1
TRINITY RIVER, DALLAS, TEXAS

River Bank Erosion Control
Product: Gabions & Gabion Mattresses

Problem
Texas lacks a large supply of natural water resources; therefore, the state is forced to stockpile water in reservoirs throughout the state, which are often long distances from water treatment plants. Dallas has a large water supply line that brings millions of gallons of water to treatment facilities, servicing the city and surrounding communities.

Sections of the supply line run parallel with the Trinity River, where flash flooding and changes in river depth have caused significant bank erosion. In a matter of years, the erosion could potentially expose partial sections of the supply line, leading to the possible risk of river debris colliding with, and damaging the supply line.

Solution
The City of Dallas needed a solution to protect various sections within a 6,500 ft. stretch of river bank, while securing the soil surrounding the supply line. A gabion wall, reinforced with soil nail anchors, along with a gabion mattress with a gabion toe were selected to prevent scour in front of the wall. These selections were made due to the strength, flexibility and durability of gabions. Soil nail anchors, which were 82–106 ft. in depth, were used to tie back the wall. Concrete pillars, 46.5 ft. straight down into the earth, were also used as very deep toe anchors.

Client
WATER UTILITIES DEPARTMENT – CITY OF DALLAS

Main Contractor
DCI CONTRACTING, INC.

Designer
ONE ENGINEERING GROUP AND AECOM

Products Used
MACCAFERRI GABIONS AND GABION MATTRESSES

Date of Construction
OCTOBER 2012