

**BAY BRIDGE, CALIFORNIA, 112-FOOT-TALL VEGETATED RSS  
YERBA BUENA ISLAND, CALIFORNIA, U.S.A.**

Reinforced Soil Walls and Slope Reinforcement

**Problem**

The Bay Bridge demolition and reconstruction required a reinforced soil slope in the final phases of the new bridge’s construction. A reinforced slope was urgently needed behind the U.S. Coast Guard building that sits at water level on the southeast coast of Yerba Buena Island. The embankment confinement system (ECS) facing alignment was originally proposed to follow contours. However, the proposed slope of the contours varied from left to right and top to bottom, demanding custom manufacturing and complex construction.

**Solution**

Caltrans designed a 112-foot-high reinforced soil slope, sitting on top of a 21-foot-high Terramesh® system mechanically stabilized earth (MSE) wall at the bottom of the slope next to an existing gabion gravity wall. Maccaferri manufactured all the ECS-related products as part of a \$1.5 million contract with OC Jones.

Maccaferri Inc.’s engineering team led the discussions with the contractor and Caltrans, and recommended alignment changes and a uniform slope to simplify the construction, saving the contractor time and money while maintaining the solution’s quality and integrity.

The project team reinforced the 112-foot-high slope with the Green Terramesh® system. The system’s angled front face and erosion control blanket are designed to help establish natural vegetation.

In addition to the slope’s height and complex nature, the project team discovered underground obstructions that were remnants of the old bridge. The team had to figure out how to work around an existing drainage system, manhole drain inlets, and an electrical duct bank as well as numerous columns and foundations associated with the new bridge.

Maccaferri’s Terramesh® system and polymer-coated gabions were used to form the Terramesh® system MSE wall at the slope’s base. After the Terramesh® system and gabions were installed at the bottom of the slope, the project team started reinforcing the slope using Maccaferri’s Green Terramesh® system.

**Client:** O.C. Jones & Sons, Inc.

**Designer / Consultant:** MACCAFERRI, INC.

**Contractor:** O.C. Jones & Sons, Inc.

**Products used (Qty.)**

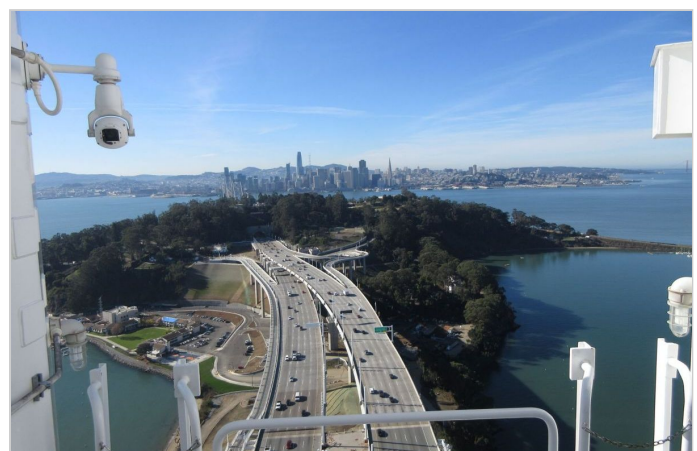
- Terramesh

112 foot high

**Date of construction:** 02/2017 - 11/2017



Post installation



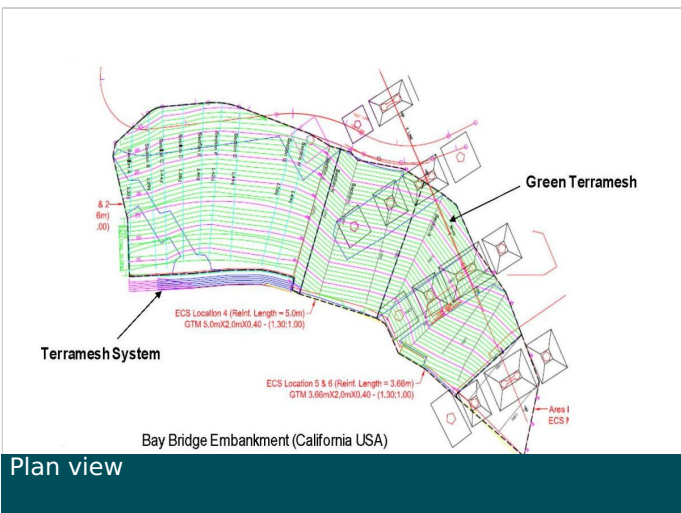
Birds eye view of completed Bay Bridge



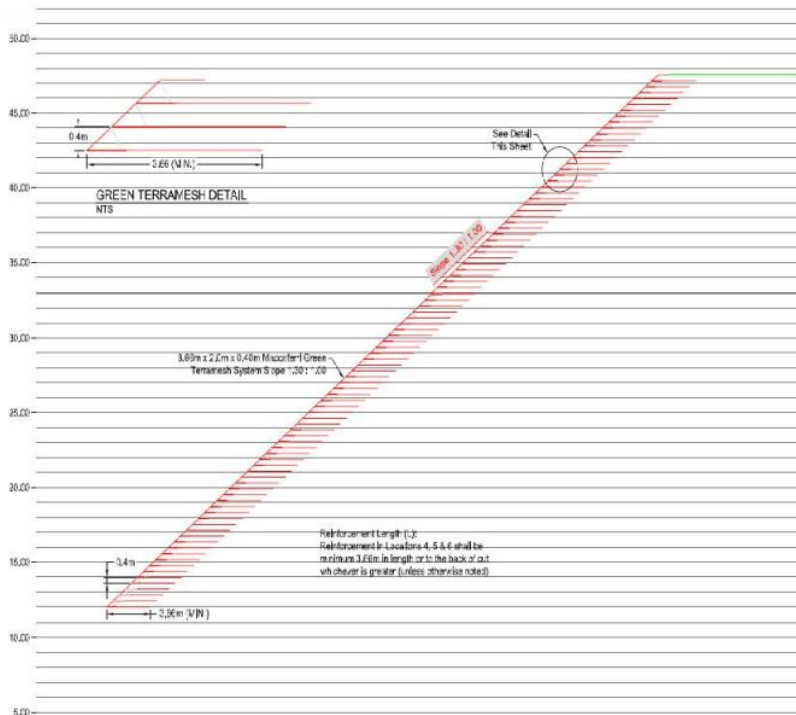
Completed System view from below



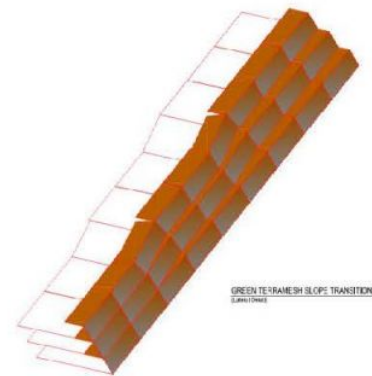
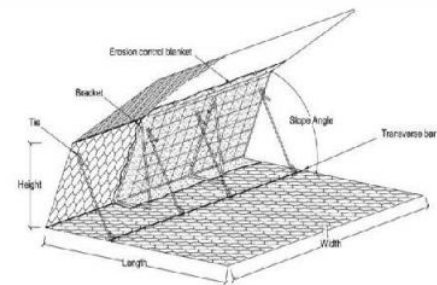
Achieved vegetated slope



Plan view



Cross Section of Design



GREEN TERRAMESH SLOPE TRANSITION (L.M.T.M.)