

BHAVNAGAR PAVEMENT STABILIZATION

BHAVNAGAR, GUJARAT, INDIA

Sub-grade Improvement

Problem

Bhavnagar is a city in the state of Gujarat situated 198 km away from the state capital Gandhinagar. This proposed Creek Kalatalav Sanesh road is the approach road to Bhavnagar District and for the nearby Salt Industries as well.

The proposed road is formed between the creeks, where the ground water table is high and flood level is also high during the monsoons. Also, sub grade strength was found to be of CBR less than 2 percent with poor soil properties. The road used to demand high maintenance and repairs cost.

Solution

R & B department referred the problem to Maccaferri for the improvement of 14 km length proposed road. Ease and speed of construction was a key element in the design selection process. Considering the site conditions and poor soil properties, Maccaferri suggested a composite that will offer the design strength for road pavement construction necessary for this project.

The solution included Double Twist wire mesh products such as gabion and Road Mesh® and geosynthetic products such as MacTex®, ParaLink®, MacGrid® and MacDrain®. Gabions were provided to act as an embankment protection on the sides of the proposed road. Nonwoven geotextile was provided to perform the separation and filtration. High strength geogrid- ParaLink® improved the ground conditions and uniform stress transfer to subsoil.

Selection of products and solution was done meticulously to mitigate the present problems of coastal road.

Client: Road & Buildings Department, Bhavnagar

Designer / Consultant: Road & Buildings Design Circle

Contractor: Kalathiya Engineering & Construction Ltd

Products used (Qty.)

- MacGrid EG	90,888 sqm
- Road Mesh	1,41,775 sqm
- ParaLink	91,789 sqm
- Gabion	38,329 cum
- MacDrain N	27,817 sqm
- MacTex N	1,55,779 sqm

Date of construction: 07/2011 - 06/2012



Photo 1: Site conditions of proposed road



Photo 2: Gabion wall embankment edges



Photo 3: Laying of GSB over ParaLink®



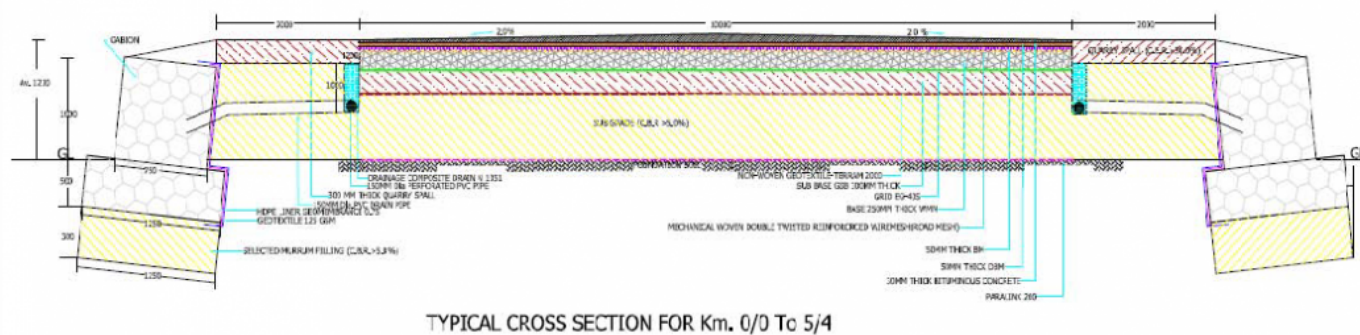
Photo 4: Laying of MacGrid® EG



Photo 5: Installation of MacDrain® for drainage



Photo 6: Laying of Road Mesh®



Cross section drawing

MACCAFERRI ENVIRONMENTAL SOLUTIONS PVT. LTD
D40, MIDC Ranjangaon, Tal-Shirur, Dist. Pune - 412 220
Tel: +91 2138 393000 , Email: info.in@maccaferri.com