

Road Construction Madain Salih – Kingdom of Saudi Arabia



Project: To improve road conditions on a UNESCO World Heritage site.

Project Objectives: Construction & Stabilisation of 10km x 12mtr Multi-Layer Road and Parking Lot (s) at Madain Salih (Al Hijr Archaeological site). This project was carried out using TerraFirma supplied Polymer technology to reduce dust emissions and retain the natural beauty of this UNESCO listed site. Project and TerraFirma supplied Polymer Technology successful and approved by Saudi Ministry of Works and UNESCO.

The laboratory tested increase in CBR value between the polymer treated soil and untreated soil was 18%. The polymer treated soil also showed a 74% improvement over untreated soil in dry unconfined compressive strength (UCS). When tested for wet UCS values, the untreated soil, after soaking, had zero strength and became completely dissolved in the water bath. Soaked samples of soil treated with Polymer Technology remained solid and had an average UCS of 471 psi. Polymer technology was accepted by the Saudi Ministry of Works as a preferred road construction method for highly sensitive environmental areas such as this UNESCO World Heritage Site.

Equipment: Road Grader, Water Truck with Pump and Hose Attachment, 10t Single Drum Vibrating Compactor.

Application Specifications: Infused application and a topical seal coat.