

Tensar® NX850™ Geogrid Creates Solid Ground for Greenwood Bypass



Greenwood Bypass

Greenwood, Arkansas

CHALLENGE

During construction of the Greenwood Bypass in Greenwood, Arkansas, the Arkansas Department of Transportation (ArDOT) needed to establish a roadway foundation over soft, saturated soils. Options included removing and replacing the existing soils with structural fill, or placing surge stone to an unknown depth. In the process of evaluating options, ArDOT contacted Tensar to determine whether mechanical stabilization with NX850 Geogrid could provide a workable solution.

SOLUTION

A Tensar engineer traveled to the site, performed Dynamic Cone Penetrometer (DCP) testing, and provided a design recommendation before leaving. DCP testing provides real-time information about field conditions by measuring soil resistance at varying depths, helping engineers characterize in-place soil strength and develop an appropriate stabilization approach.

Based on the field evaluation, Tensar recommended a mechanically stabilized section incorporating Tensar NX850 Geogrid beneath a 24-inch rock layer. NX850 is an integrally formed geogrid engineered for mechanical stabilization applications. Its multidirectional structure helps improve interaction with aggregate to create a more stable, constructible surface over weak subgrades. The section was designed to pass proofroll with a half-inch allowable deflection.

RESULTS

- Created a stable section that supported loaded dump trucks without rutting.
- Delivered significant cost and time savings compared with the alternatives considered.
- Prompted ArDOT to request the project profile for sharing with other divisions as a potential solution for future projects.



PROJECT TEAM

Project Partners

ArDOT

Darragh Company

Product

Tensar® NX850™ Geogrid

Installation

November 2024



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