



Natural Gas Processing Facility

Appalachian Region

APPLICATION: A natural gas processing facility, designed to provide midstream services (collection, processing and transport), was under construction in the Appalachian region. The facility required a paved delivery road that would be able to support heavy truck traffic.

THE CHALLENGE: Site challenges were minimal; the issue remained the relatively high cost of asphalt in the area, and thus the desire to reduce material and construction costs.

SITE CONDITIONS: The site offered no extraordinary geotechnical issues. The facility was located on relatively flat land, but the sites infrastructure was subject to heavy vehicular traffic on a continual basis.



Workers begin the placement of the *Tensor® TX5 Geogrid*.

ALTERNATIVE SOLUTION: The initial design called for a 2 in. wearing course, a 3 in. binder course and 4 in. of base asphalt over a 10 in. layer of stone. After reviewing the potential costs, the general contractor asked Tensor International Corporation to value engineer the pavement section to see whether geogrid stabilization could provide an optimized design that would be more cost effective.

THE SOLUTION: David Lipomi, Tensor Senior Regional Manager and Oil and Gas Market Manager, used SpectraPave4-PRO™ Software to analyze several pavement section designs to determine the optimal solution. Each section included stabilization with the Spectra® Roadway Improvement System incorporating Tensor® TriAx® TX5 Geogrid. The first pavement section design option featured a 4 in. reduction in stone. The second design included a 1 in. reduction in asphalt and 2 in. reduction in stone. The third, and most cost effective option, provided a 2 in. total reduction in asphalt. The client chose the third design scenario, resulting in a 0.5 in. decrease in both the wearing and the binder courses and a 1 in. reduction in the base asphalt.

“The design engineers were concerned with pavement fatigue with any reduction in asphalt, but we provided the necessary solution to alleviate their concerns,” Lipomi stated.

“We’ve worked with TriAx Geogrid in the past,” noted Jeff Woodcock, P.E., Vice President and Principal of Civil & Environmental Consultants, Inc., a company widely

PROJECT HIGHLIGHTS

Project:

Pavement Optimization of a Natural Gas Processing Facility

Location:

Appalachian Region

Installation:

October 2014

Product/System:

Spectra® Roadway Improvement System
TriAx® TX5 Geogrid

Quantity:

16,700 square yards

Design Engineer:

Civil & Environmental Consultants, Inc.

General Contractor:

The Lane Construction Corporation

Paving Contractor:

The Lash Paving Company

Materials Supplier:

Lee Supply Company, Inc.

experienced in the natural gas sector. "Our previous projects dealt with subgrade improvement. Based on the success of those projects, we used geogrid on this project for its cost effectiveness."

The use of the Spectra System, resulted in savings of approximately \$90,000 in project costs and 1,850 tons of asphalt, according to Allen Smith, Job Engineer with The Lane Construction Corp. The system's TriAx Geogrid is "an excellent product to use in varying conditions - from mediocre subgrade to mud," Smith commented.



Base aggregate is installed over Tensar® Geogrid.

THE SPECTRA SYSTEM ADVANTAGE:

Engineers and contractors are selecting the Spectra System incorporating TriAx Geogrid to optimize pavement sections to:

- Simplify and speed construction while increasing the performance of pavement structures
- Decrease labor and equipment requirements
- Reduce aggregate fill thickness
- Lesser undercut, overexcavation and removal requirements
- Enable construction to proceed even in difficult working conditions

ADDITIONAL INFORMATION AND SERVICES:

Tensar International Corporation, the leader in geosynthetic soil stabilization, offers systems for improving structures such as roadways, rail yards, construction platforms and parking lots. Our products and technologies, backed by the most thorough quality assurance practices, are at the forefront of the industry. Highly adaptable, cost-effective and installation-friendly, they provide exceptional, long-term performance under the most demanding conditions. Our support services include site evaluation, design consulting and site construction assistance.

For innovative solutions to your engineering challenges, rely on our experience, resources and expertise that have set the industry standard for three decades.

For more information on the Spectra System or other Tensar Systems, call 800-TENSAR-1, email info@tensarcorp.com or visit www.tensarcorp.com.

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