

On the Road Again with Tensar® Biaxial (BX) Geogrids

Tensar® BX1200 Geogrids Get the Vote for Presidential Turnpike

U.S. history is filled with tales of Presidents facing challenging roads before them. But a road named after one of our most recent Presidents has been a challenge all its own!

The President George Bush Turnpike, a tollway named for the 41st Commander-in-Chief, is the east-west expressway across the northern suburbs of Dallas (a 10-mile extension on Dallas's east side is currently under study). A collaborative effort of the Texas DOT, the FHWA, the North Texas Tollway Authority (NTTA), and local jurisdictions, the road had been on regional planning maps since the 1950s. Construction eventually began in 1996; the first section of the tollway opened in 1998.

Two sections of the 30.5-mile tollway, which began in 2003 and were estimated to be complete in 2006, have been some of the most challenging. The sections, totaling 3.5 miles of a 5.2-mile segment, required construction of embankments over closed landfills, solid waste (including construction debris), and low-lying lagoons. Geotechnical recommendations included a complex solution of drainage systems, deep dynamic compaction, deep soil mixing, and geosynthetic reinforcement.

Selected over two competitors, Tensar BX1200 Geogrids were installed to stabilize the subgrade, counteract settlement, and (in the section bearing the lagoons) provide a sturdy construction platform over extremely compressible soils. In one section, contractors faced up to five feet of saturation before drainage. With the NTTA's approval of BX1200, "we never had any problem with the footing," claims Robert Hodges, vice president-engineering, T.J. Lambrecht Construction. "Tensar BX1200 (Geogrid) eliminated undercutting, accelerated our schedule, and provided tremendous savings in time and expense. For any kind of soft subgrade situation, there's nothing better."

- ▶ CONTECH® Construction Products' plant in Taylor, TX serviced a 80,000 sq yd emergency change order at the President George Bush Turnpike in Dallas in less than 24 hours. Within two days of the verbal release, the Contractor received over three trucks of Tensar BX1200 Geogrid, and the entire order was installed a few days later.



With its closed landfills, the section provided other challenges as well. Deep dynamic compaction was ruled out near residential communities close to the sites. In those areas, BX1200 was double-layered with on-site fill, while compaction with single layering was successfully implemented away from the communities.

“I’m rather amazed at how these geogrids have stabilized subsurfaces, prevented pumping, and provided a solid work platform. We’re running heavy, off-road equipment, and all reports are good,” commented Mark Bouma, P.E., director of engineering with the NTTA. “They’ve allowed the designer to steepen slopes, which reduced our embankment requirements and consequently, the right-of-way needs, and they’ve brought cost savings to the project,” he continued.

The two sections “show the versatility of geogrids,” added Garry Gregory, P.E., principal consultant with Stillwater, Oklahoma-based Gregory Geotechnical. “We had to use numerous techniques in problematic areas requiring deep stabilization, but geogrids were the common thread. They played a key role in primary stabilization and a critical role in secondary stabilization. In addition, they’re practical and easy to design with using conventional engineering principles.”

The President George Bush Turnpike project is proof once again that — even after thousands of installations — Tensar BX1200 Geogrids are always up to the challenge.

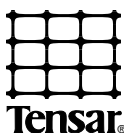


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**Robert Hodges
Vice President Engineering
T.J. Lambrecht Construction**



- ◀ *CONTECH’s quick service enabled the Contractor on the George Bush Turnpike to mobilize over very weak soils and get back on schedule.*
- ▼ *Tensar BX Geogrids were used for a load transform platform on this section of the President George Bush Turnpike installed in the Fall 2003.*



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