

FHWA has initiated a technology transfer program to introduce Geosynthetically Reinforced Soil (GRS) in bridge and box abutment applications.

This is a culmination of research and demonstrations begun by John Steward and John Mohney of the USFS, and Dick Bell of Oregon State in the 1970's. Al Ruckman and I of Colorado DOT along with Dr. J.T.H. Wu of the University of Colorado/Denver continued to develop and improve this revolutionary concept in the 80's and 90's. Al and I continued to develop variations and applications in the private sector with Yenter Companies and then with our own companies, Soil Nail Launcher, Inc., GeoStabilization, LLC., and Landslide Solutions, Inc. beginning about 2000. Those efforts continue under the leadership of the current management. We call it Geosynthetically Confined Soil (GCS) to better describe the contribution of the inclusion.

NCHRP contributed significantly with two studies that culminated with NCHRP Report 556 and a comprehensive shake table test where Dr. Wu concluded that a GRS/GCS abutment can withstand any credible earthquake. I chaired the first project was a member of the second panel.

FHWA's Turner Fairbank Highway Research Center (TFHRC) and Mike Adams fostered this research for the last 20 or so years and the current tech transfer program is their credit. FHWA's field team, including Dan Alazamora, has been given high marks for their current workshops and field support.

This opens a entirely new paradigm for the geotechnical community. Bridge location and abutment design now become a partnership with the structural community. This is a first opportunity to take responsible charge for engineered features. As opposed to just writing reports with caveats that amount to the author never having visited the site.

Let me tell you that responsible charge (real engineering) is exciting, rewarding and fun....you got to try it.....or this whole program will regress back to the way it has been done. The bridge design community cannot lead this....it is up to the geotechs. It is worth billions to our highway users and it will improve your bottom line.

Here are some links relating to this FHWA program.

<http://www.fhwa.dot.gov/publications/research/infrastructure/structures/11026/11026.pdf>

<http://www.fhwa.dot.gov/publications/research/infrastructure/structures/11027/11027.pdf>

http://www.fhwa.dot.gov/everydaycounts/summit/grs_ibs.cfm

www.gcswall.com

It is immensely satisfying to see a life's work in research and development reach national acceptance. A paradigm change in one lifetime. Wow.

Kindest Regards, Bob Barrett