AASHTO Recommended Practice for Base Reinforcement

The American Association of State Highway and Transportation Officials (AASHTO) has weighed in on base reinforcement in the April 2001 Interim Edition of their Provisional Standards. AASHTO PP46-01 is entitled, Recommended Practice for Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures. The three-page document *provides guidance to pavement designers interested in incorporating geosynthetics to provide structural support of traffic loads over the life of the pavement structure*. When applied within, or directly beneath, the granular base course, *the geosynthetic is expected to provide one or both of these benefits: 1) improved or extended service life of the pavement, or 2) a reduction in the thickness of the pavement structure*. (This is in contrast with the other principal geosynthetic reinforcement application termed subgrade improvement, or subgrade restraint. Here, the principle benefit is increased support for equipment during construction of the roadway.)

AASHTO says, *This Recommended Practice is very empirical in nature and restricted to applications already demonstrated to be useful*. Further, *The practitioner will need to consult the references and locate a tested section similar to that which is expected in their own design*. Thus, *similar case histories of pavement reinforcement should be used to help estimate the potential benefit of geosynthetic reinforcement for the specific application being considered. In that way, the experimentally determined benefit may be applied to the project being designed*. (Tensar Earth Technologies, Inc. can provide you with relevant information and references.)

Further, ***Design procedures use experimentally derived input parameters that are often geosynthetic specific. Thus, computed engineering designs are not easily translated to other geosynthetics. Therefore, users of this document are encouraged to affirm their designs with field verification of the reinforced pavement performance, both in engineering design and economic benefits***.

Traffic Benefit Ratio (TBR) and Base Course Reduction (BCR), or a combination of the two, are identified as alternative target benefits. Life-cycle cost comparisons, reinforced and unreinforced, should then be completed. *Based on the results of the above process*, AASHTO says, *the engineer may want to develop an approved list of* (geosynthetic reinforcement) *products that are considered appropriate for this application, based on successful past applications*.

The 270-page AASHTO Provisional Standards, April 2001 Interim Edition, may be ordered by contacting AASHTO at 1-800-231-3475, or online at www.transportation.org, order code BP8-PS-011. The price is $50.00, $40.00 for AASHTO members.