Pavement design

Pavement design and construction methodology is most often office based and reliant on critical input data and computer programs. However to design and construct a pavement intelligently and responsibly, other factors need to be brought into consideration to ensure cost efficiencies, best resource usage and least environmental impact. All important factors in today's economic and environmentally driven climate.

This presentation promotes stabilised pavement layers as intelligent and responsible pavement components and discusses criteria to be taken into consideration when designing a pavement. It is divided into subgrade and base course sections which have unique and different criteria and benefits. Sub-grade stabilising is a well recognised component in pavement construction but is not always specified. This can result in either contract variations with associated project cost escalations or construction complications and likely premature pavement failures. Base course stabilisation or aggregate modification is also a recognised pavement construction technique. It is generally used in pavement construction as an alternative to the use of premium quality base course aggregates. Yet despite its proven benefits it is not widely specified by pavement designers and roading authorities.

The criteria discussed in this paper for both sub-grade and base course stabilisation options covers issues such as site location, soil types, local practice, quarry location and quality, transport routes, construction program, demands on resources and project scale. All these issues should be taken into consideration during the design and construction phases of a pavement to ensure that the most appropriate pavement construction methods are incorporated.