

## Contribution of loamy soil treatment to improve embankments performance

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**ABSTRACT:** This paper shows for a loamy soil the benefits of lime treatment on the evolution of the geomechanical properties governing the slope stability and the resistance against erosion of embankments. The main results indicate that the effective internal friction angle ( $\phi$ ) is quite unchanged through time, while the effective cohesion ( $c'$ ) strongly increases. Furthermore, erosion tests using the LCPC erodimeter on slopes between 0 and 30 degrees, and for a curing time up to 112 days, have shown that the treated soil becomes insensitive to erosion after a few days. These results clearly establish the benefits of lime treatment in safety and serviceability of embankments for highways and high speed trains and, consequently, have an important impact on the reduction of their life cycle costs.

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