

ชื่อเรื่อง

Slope Stabilization: Vetiver Application in Bio-Engineering Aspect

ชื่อผู้วิจัย

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Abstract

Tremendous earth work during the construction of Noppamaetaneedol and Noppapol Phumisiri Pagoda at Intanon summit has caused substantial change in the relief on the construction site. Falling earthwork had formed a steeper slope which was stable enough to sustain itself during the dry season. But in the rainy season, infiltrated water which was contributed by subsurface flow had gradually increased pore pressure and subsequently overcame shear stress of the soil. This caused slope failure. In order to reduce pore pressure strips of gravel pit were built so as to induce inflow from the excess moisture content of the soil. The excess water was then drained into concrete dikes next to each pit. Even though most of the excess water was drained out, what was left was enough to make the portion of slope adjacent to the dikes become unstable. To remove this problem a row of vetiver was planted on the outer bank of each dike. The vetiver outstanding root system had two roles. The first was to mesh up and mechanically add stability to the slope. The second role was to suck up the excess water and dissipate it via evapotranspiration process.