

Influence of rainfall on slope stability at Egnatia highway, Asprovalta-Strymonas part (chainage 9+700)

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Introduction

In the present paper, the activation of an important landslide, in rain conditions, caused to the excavations performed for highway construction, is studied. The slope is located along the Egnatia Road at Asprovalta-Strymonas part (chainage 9+700) (Fig.1). The study area is geotechnically located in Serbomakedonian zone. It consists of weathered biotitic gneiss, lenses of blue and white marble. Ophiolitic intercalation consisting of peridotite, serpentinite and siphonite also exists (Dixon & Dimitriadis, 1984).

The slope, 60m high (Fig.2), consists of medium to high weathered, cracked biotitic gneiss. The water of a short rainfall decreased the safety of slope and created landslide. The landslide is bounded at the half-formed part of the slope. So, methods for increasing the safety factor are studied.



Fig. 1. Location of the study area



Fig. 2: Landslide view



Geological – geotechnical valuation

The surface of rockmass consists of medium to high weathered, cracked gneiss. Rockmass quality is poor (category IV, Bieniawski, 1989). There are two joint sets having smooth sliding surfaces. The direction of joint sets is NW-SE (115/65) and the filling material is grey-colored clay.

According to boreholes data, the water table is very deep and doesn't affect slope stability.

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