

Geotechnical problems of linear road and railway structures

Abstract:

This thesis considers some issues regarding geotechnical problems of linear transportation constructions, specifically roads and railways. The first part proposes a classification and typology of some geotechnical problems that can occur both during their construction and following traffic, and focuses solely on problems which may occur under conditions common in the Czech Republic. For this reason, the classification does not regard such issues as volcanism, earthquakes etc. All the points of this classification are then shortly described. Causes, mechanisms and effects are briefly mentioned. The second part presents thirty short case studies, (mainly from the Czech Republic area). These fall into two main groups. The source of the first group is literature research and information, as provided by practising experts. Some of the case studies presented in this part, despite having been published, are otherwise hardly accessible for the general public. Into the second group belong cases that have been explored by the author himself. These case studies are as follows: Brandýsek, highway D11 km 72. - 73., Drahotuše, Nové Dvory - Sušice, R7 road km 13,2 – 14., Raspenava – Frýdlant and Štěchovice – Davle. The third part refers to two mathematical models, which were created in the Plaxis 2D programme for the purpose of verifying certain aspects of two cases from the previous part.