Aakaar 16th Edition

ICES 2024

TITLE OF PROJECT: **Analyzing the Stability of Road Embankment using Plaxis 2D and the use of Geotextiles for its Reinforcement**

NAME OF ALL AUTHORS: *Rashi G Ugalkar , Sakshi A Kulkarni , Shubham S Shirgave , Tejas G Rokade*

NAME OF YOUR MENTOR: *Dr. R.D.Nalawade (Associate Professor)*

NAME OF YOUR COLLEGE: All India Shri Shivaji Memorial Society College of Engineering Pune

ABSTRACT (150-300 words):

Traditional methods for detection of slope stability and maintenance have proved less efficient with time and progressive technologies.

The abstract focuses on assessing the stability of road structures, considering factors such as soil properties, loading conditions, and geometric features, using Plaxis 2D software with an emphasis on geotextile reinforcement. The study employs numerical modeling techniques within the software to analyze geotechnical parameters, ground conditions, and loading scenarios. Results highlight the software's effectiveness in predicting potential slope failures, contributing to enhanced road infrastructure resilience and safety. Providing valuable insights for engineering decisions and risk mitigation in geotechnical projects.

This project has carried the study of the implementation of geotextiles as a reinforcement technique ,significance of employing geotextiles as a preventive measure for road embankment failures. It explores the role of geotextiles in enhancing stability, mitigating soil erosion, and addressing common challenges associated with embankment failure. The abstract emphasizes the potential benefits of incorporating geotextile materials in road construction to ensure long-term infrastructure resilience and cost-effective maintenance.

KEYWORDS: Slope Stability , Plaxis 2D , Geotextile

CATEGORY: Geotechnical Engineering