Stabilizing a Failed Slope in Islamabad, Pakistan

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Abstract : This paper is based on a research carried out on a failed slope in Defence Housing Authority (DHA) Phase I, Islamabad. The research included determination of Soil parameters, Site Surveying and Cost Estimation. Apart from these, the use of three dimensional (3D) slope stability analysis in conjunction with two dimensional (2D) analysis was used determination of slope conditions. In addition collection of soil reports, a detailed survey was carried out to create a 3D model in Surfer 8 software. 2D cross-sections that needed to be analyzed for stability were generated from 3D model. Slope stability softwares, Rocscience Slide 6.0 and Clara-W were employed for 2D and 3D Analyses respectively which have the ability to solve complex mathematical functions. Results of the analyses were used to confirm site conditions and the threats were identified to recommend suitable remedies.The most effective remedy was suggested for slope stability after analyzing all remedies in software Slide 6 and its feasibility was determined through cost benefit analysis. This paper should be helpful to Geotechnical engineers, design engineers and the organizations working with slope stability.

Keywords : slope stability, Rocscience, Clara W., 2d analysis, 3D analysis, sensitivity analysis

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