Thesis Title	Stability Analysis of Bermed Embankment
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Abstract

The purpose of this thesis is to study the stabilizing berm in order to increase stability of the road embankment which being built on soft clay in Thailand. A design chart for the bermed embankment can be made by using the SLOPE/W Program which can be applied under Windows environmental and by the JAKOBSON design graph. As above mentioned both methods are used and finally the results will be compared. The data to be analyzed has been set at the factor of safety of bermed embankment not less than 1.3 and greater than 1.5 with embankment width is 6 – 15 m., embankment height is 2 – 4 m., unit weight and friction angle of berm and road embankment's material are 2 t/m^3 and 30 degree respectively, traffic load is 1 t/m^2, depth of soft clay is 16 m., unit weight of soft clay is 1.45 t/m^3 and undrained shear strength of soft clay is 0.70 – 1.50 t/m^2. The analysis of berm using SLOPE/W Program approximately the berm height is set of haft of the embankment height, then varying the berm width to meet the standards of bermed embankment safety factor. Design method by JAKOBSON is also made on the basis of the same data for comparison.

From the research it is found that the embankment width from SLOPE/W Program in generally more than that estimated by JAKOBSON method. Moreover, difference between these methods are quite variable. Such in case, we found that undrained shear strength of soft clay gradually increase and the berm width by JAKOBSON method is a little bit more than the are from SLOPE/W Program. The cause of this difference is believed to be due the hypothetic assumption of both method. SLOPE/W Program is based on Simplified Bishop theory, while the geometry of the

bermed embankment by JAKOBSON method is different from the SLOPE/W Program. For example angle at center of failure surface of JAKOBSON method is approximated 133.5 degree while the SLOPE/W measurement is absolutely computed to theory. Finally, JAKOBSON method is limit failure surface for three cases which are depend on the soft clay thickness and stress cause from unit weight of embankment and berm. Generally, failure surfaces for both methods of analysis are different.