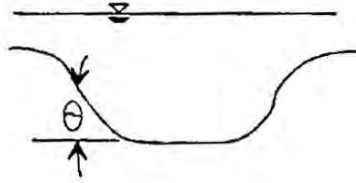


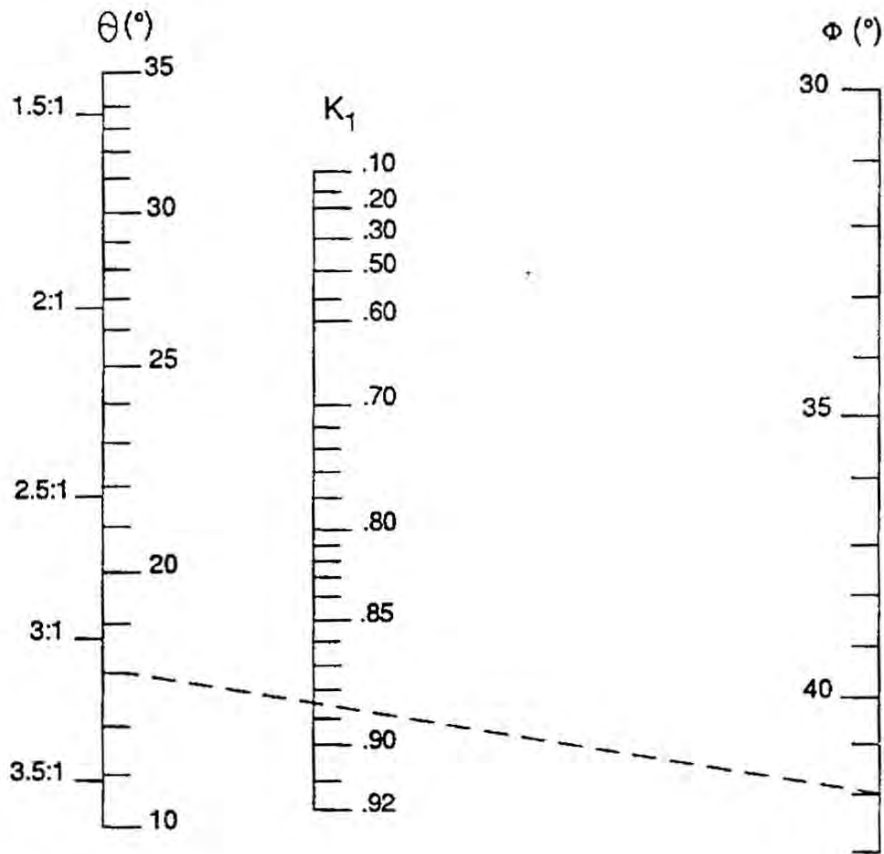
Appendix 7E-4 Bank Angle Correction Factor ( $K_1$ ) Nomograph



$$K_1 = \left[ 1 - \frac{\sin^2 \theta}{\sin^2 \phi} \right]^{0.5}$$

$\theta$  = Bank angle with horizontal

$\phi$  = Material angle of repose  
(See chart 4)



Example

Given:  
 $\theta = 18^\circ$   
 Very Angular  
 $D_{50} = 1.5$  ft.

Find:  
 $K_1$

Solution:  
 $\phi = 42^\circ$   
 $K_1 = 0.885$

Source: HEC-11