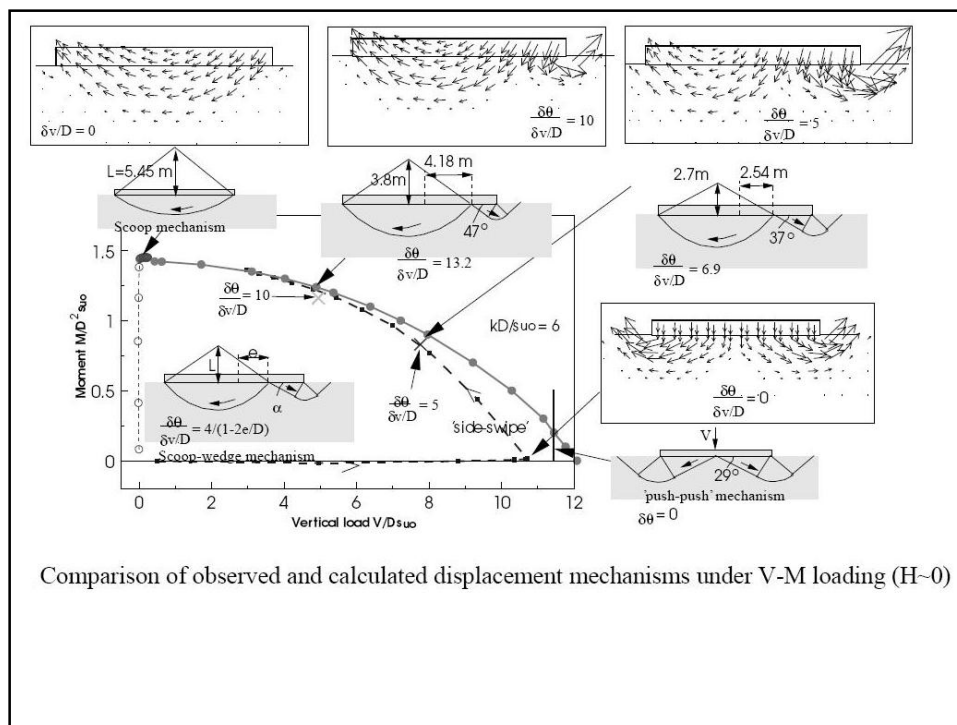
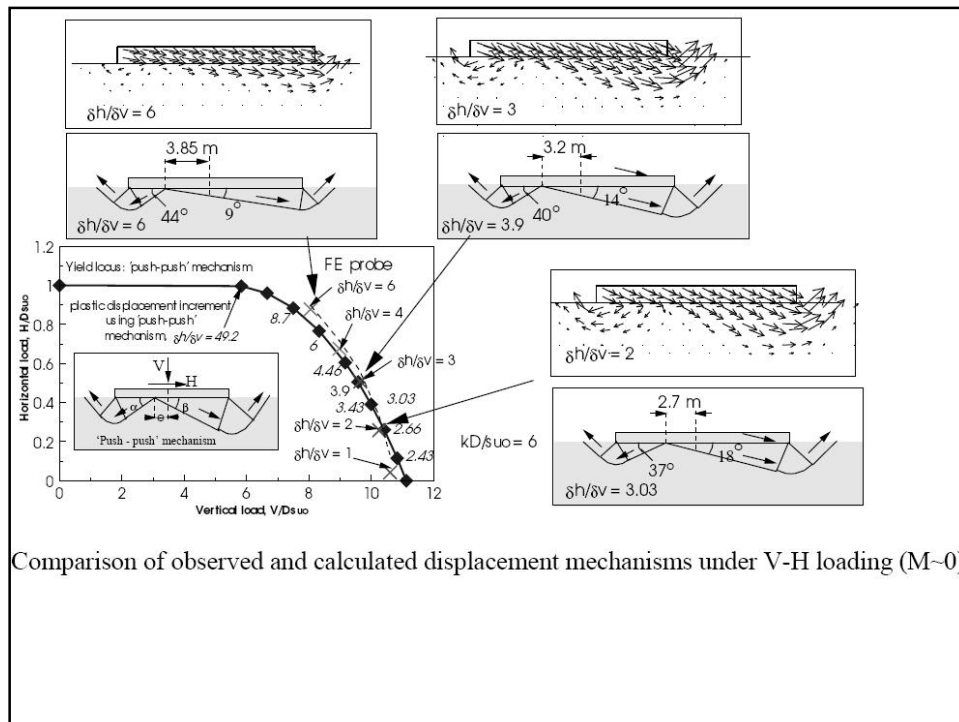


Fundaciones Superficiales Cargas Excéntricas

Prof. Ricardo Moffat

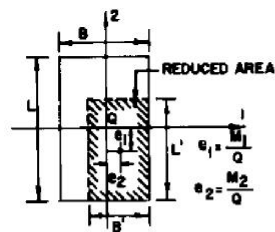


Comparison of observed and calculated displacement mechanisms under V-M loading (H=0)



Comparison of observed and calculated displacement mechanisms under V-H loading (M-0)

Área equivalente



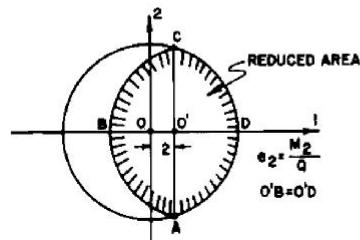
(B) REDUCED AREA-RECTANGULAR FOOTING

For rectangular footings
reduce dimension as follows:

$$L' = L - 2e_1 \quad e_1 = \frac{M_1}{Q}$$

$$B' = B - 2e_2 \quad e_2 = \frac{M_2}{Q}$$

For a circular footing of radius R , the effective area $A'_e = 2 \times (\text{area of circular segment ADC})$, consider A'_e to be a rectangle with $L'/B' = \frac{AC}{BD}$



(C) REDUCED AREA-CIRCULAR FOOTING

$$e = \frac{M}{Q}$$

$$A'_e = 2S = B'L'$$

$$L' = \left(2S \sqrt{\frac{R+e_2}{R-e_2}} \right)^{1/2}$$

$$B' = L' \sqrt{\frac{R-e_2}{R+e_2}}$$

$$S = \frac{\pi R^2}{2} - \left[e_2 \sqrt{R^2 - e_2^2} + R^2 \sin^{-1} \left(\frac{e_2}{R} \right) \right]$$

