



$\mu_1$  = Coefficient of Friction for Soil on Soil = 0.70

$\mu_2$  = Coefficient of Friction for Concrete on Soil = 0.45

$$\begin{aligned} \text{Total Frictional Force } F_f &= 0.70 \left(\frac{1}{2}\right) (227 + 124)(1.55) + 0.45 \left(\frac{1}{2}\right)(124)(1.85) \\ &= 190.4 + 51.6 \\ &= 242.0 \text{ kN per running meter} \\ &= 73.8 \text{ kN per running foot} \end{aligned}$$

Passive Pressure in front of Wall =  $P_p$

$$P_p = \frac{1}{2} K_p W h^2 ; W = 19 \text{ kN/m}^3$$

$$P_p = \frac{1}{2} (0.75)(19)(1.68)^2 = 20.0 \text{ kN}$$

$$\text{F.S.} = \frac{F_f + P_p}{F_h} = \frac{73.8 + 20.0}{52.1} = 1.80 > 1.5 \text{ O.K.}$$

**FACTOR OF SAFETY AGAINST SLIDING FOR SPREAD FOOTING - EXAMPLE**  
Figure 68-3B