r equals $\frac{E.s}{E.c}$ = Ratio of moduli of elasticity of steel to concrete.

M " Bending moment in inch lbs.

F " Factor of safety.

ASSUMPTIONS

h equals 12 inches.

F " 4

C " 2,500 lbs. per square inch.

S " 56,000 " " " "

r " 10.

FORMULAE

$$(1)\ K=\frac{C}{2F}\left[\frac{1}{1+\frac{S}{Cr}}\right]\left[1-\frac{1}{3\left(1+\frac{S}{Cr}\right)}\right]$$

$$(2)\ p=\frac{1}{2\left(\frac{S}{C}\right)\left(1+\frac{S}{Cr}\right)}$$

(3) $M=KhT^2$

Solving equation (1) for K we have

$$K=\frac{2,500}{8}\left[\frac{1}{1+\frac{56,000}{25,000}}\right]\left[1-\frac{1}{3\left(1+\frac{56,000}{25,000}\right)}\right]$$

K=86.57

Substituting these values in formula 3($M=KhT^2$) we have

$$T=\sqrt{\frac{M}{K\times 12}}$$

Solving formula 2, we have

p=.007

According to formula 1, the theoretical batter for the back of the wall is 1 in 19, but a batter of 1 in 12 was adopted.

COLUMN 7. Diameter of rods to correspond with areas in Col. 6.

COLUMN 8. Similar to Col. 3.

COLUMN 9. Area of steel=Tensile Strain in lbs. divided by working stress of steel per square inch (12,000).