

END VIEW

NOTE: USE 2x6 SPACERS BETWEEN 2x8

NOTE: USE #4 NAILS FOR ALL NAILING.

44' BOX BEAM 172 LB/FT LOAD
 NDSU AGRIC. ENGR'G
 AND 708-1-2
 CHECK FOR GLP
 YSA

$$\frac{BM}{Sfs} = \frac{I}{C}$$

$$BM = \frac{I(Sfs)}{C} = \frac{1000 \cdot 500}{\frac{4000(1500)}{+2}} = 500,000 \text{ IN} \#$$

$$BM = \frac{Wl^2}{8}$$

$$500,000 = \frac{W(44)^2(12)}{8}$$

$$W = \frac{500,000(2)}{3(44)^2} = \frac{5 \times 10^5 \times 2}{3 \times (4.4)^2 \times 10^2}$$

$$= \frac{10 \times 10^3}{3 \times 19.4}$$

$$= \frac{10 \times 10^3}{3 \times 1.94 \times 10}$$

$$= 1.72 \times 10^2$$

$$= 172 \# / ft.$$

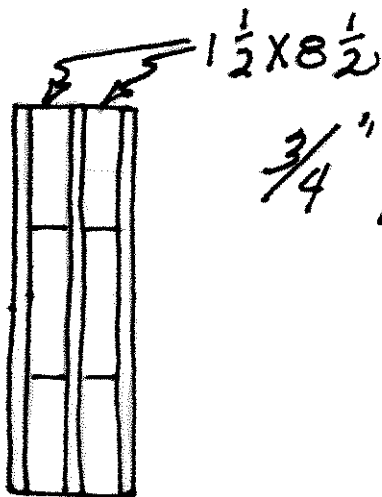
$$v = \frac{VQ}{It}$$

$$V = 172 \times 22 = 3790 \#$$

$$S = \frac{Mc}{I}$$

$$M = \frac{SI}{C}$$

$$\begin{array}{r} .428 \\ .183 \\ \hline .140 \\ \hline .751 \end{array}$$



$\frac{3}{4}$ " plywood

face plys 0.07 in each
Center ply 0.183 in (one only)

$$I = \frac{1}{12}bh^3 = \frac{1.5(7.5)^3}{12} = 526$$

$$\begin{aligned} Ad^2 &= 1.5(7.5)(12 - 3.75)^2 \\ &= 1.5(7.5)(8.25)^2 = 761.1 \end{aligned}$$

$$\begin{aligned} I_{ply} &= \frac{1}{12}(0.07 + 0.183 + 0.07)(24)^3 \\ &= \frac{1}{12}(0.323)(24)^3 = 373.1 \end{aligned}$$

$$\begin{array}{r} I \quad 52.6 \times 4 = 210.4 \\ \quad 761.0 \times 4 = 3044.0 \\ \quad 373 \times 2 = 746.0 \\ \hline \quad 4000.4 \end{array}$$