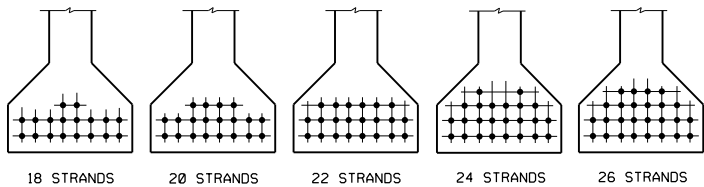
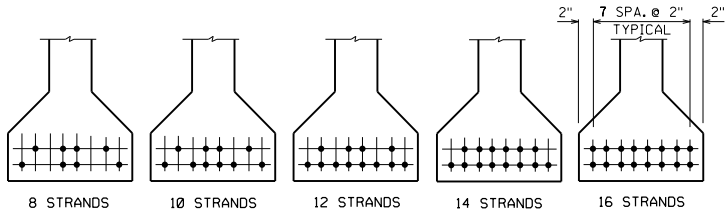


**STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY
TO AVOID DRAPING OF 0.6" DIA. STRANDS**
(0.5" DIA. STRANDS MAY ALSO BE USED)



ARRANGEMENT AT $\frac{L}{4}$ SPAN - FOR GIRDERS WITH DRAPED 0.5" DIA. STRANDS

36" GIRDER

A = 369 SQ. IN.
 $r^2 = 138.15 \text{ IN.}^2$
 $y_T = 20.17 \text{ IN.}$
 $y_B = -15.83 \text{ IN.}$
 $I = 50,979 \text{ IN.}^4$
 $S_T = 2,527 \text{ IN.}^3$
 $S_B = -3,220 \text{ IN.}^3$
 WT. = 384 #/FT.


PRE-TENSION

$f'_s = 270,000 \text{ P.S.I.}$
 $f_s = 0.75 \times 270,000 = 202,500 \text{ P.S.I.}$
 for low relaxation strands
 $P_i \text{ PER } 0.5" \text{ DIA. STRAND} = 0.1531 \times 202,500 = \underline{31,00 \text{ KIPS}}$
 $P_i \text{ PER } 0.6" \text{ DIA. STRAND} = 0.217 \times 202,500 = \underline{43,94 \text{ KIPS}}$
 $\frac{y_B}{r^2} = \frac{-15.83}{138.15} = -0.1146 \text{ IN./IN.}^2$
 $f_b (\text{ini t.}) = \frac{A_s f_s}{A} (1 + \frac{e_s y_B}{r^2})$

NO. STRANDS	e_s (inches)	(COMPRESSION IS POSITIVE)	
		$P(\text{ini t.}) = A_s f_s$ (KIPS)	$f_b (\text{ini t.})$ (K/sq.in.)
STANDARD STRAND PATTERNS FOR UNDRAPED STRANDS (0.6" DIA.)			
8	-11.33	352	2,192
10	-10.23	439	2,584
12	-9.83	527	3,036
14	-9.26	615	3,435
16	-9.08	703	3,887
STANDARD STRAND PATTERNS FOR DRAPED STRANDS (0.5" DIA.)			
8	-12.83	248	1,660
10	-13.03	310	2,094
12	-13.16	372	2,528
14	-12.97	434	2,924
16	-12.83	496	3,320
18	-12.50	558	3,678
20	-12.23	620	4,034
22	-12.01	682	4,392
24	-11.66	744	4,710
26	-11.37	806	5,030

DESIGNER NOTES

ON THE STRAND PATTERN SHEET, PLACE A BOX AROUND EACH STRAND PATTERN THAT APPLIES TO THE DESIGNED STRUCTURE AND LABEL THE SPAN IT IS USED IN.

36" PRESTRESSED GIRDER DESIGN DATA	
	BUREAU OF STRUCTURES
APPROVED: <u>Bill Oliva</u>	DATE: 7-21