

**B-618-1**  
(use with B-618-2 and B-618-3; also add B-618-7 when horizontal curve is present.)

**NOTES:**  
Reinforcing that interferes with the prestressing tendon alignment shall be adjusted as approved by the Engineer.

Where dead end anchorage and tendons are accessible, the anchorage system and length of projecting prestressing steel shall permit jacking with the same jacking equipment that was used on the live end.

Deviations from the duct pattern, duct size, and strand size assumed in the design must be approved by the Engineer. Duct patterns 1 and 2 are the only acceptable patterns.

The deflection shown is positive downward. It includes the instantaneous effects of dead load and prestressing, and a factor of three (3) multiplier to account for long term creep. Formed web elevations must be adjusted upward for an indicated positive deflection.

Use stress relieved or low-relaxation strands meeting the requirements of ASTM A416 grade 270.

**STRESSING SEQUENCE:**  
Tendons may be jacked from both ends, either simultaneously or sequentially, or 1/2 the tendons may be jacked from each end. If 1/2 the tendons are jacked from each end the jacking force shall be increased \_\_\_\_\_ KIPS. If jacking force or steel area is greater than assumed in the design, prestressing quantities shall not be adjusted.

No more than 1/2 of the prestressing force in any web may be stressed before an equal force is stressed in the adjacent webs. At no time during the stressing operations will more than 1/6 of the total prestressing force be applied eccentrically about the centerline of the structure.

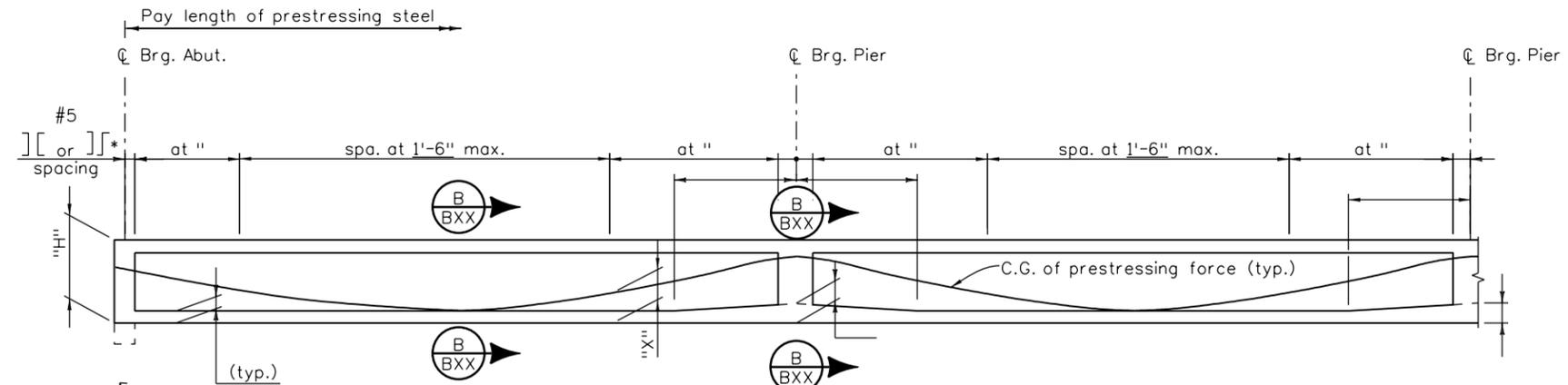
At the Contractors option, the prestressing force may vary ±5% from the theoretical force per web provided the total P(JACK) force is obtained and is distributed symmetrically about the centerline of the typical section. P(JACK) is the sum of the peak forces reached during jacking in each tendon.

**DESIGN:**  
Design is based on  $K=0.0002$  and  $\mu=0.25$ . P(JACK) at the jacking ends includes friction, anchor set of 0.375" at the jacking end, elastic shortening, and provisions for an additional 32 KSI long term loss in stress.

Duct pattern \_\_, on Dwg. B\_\_\_\_, with \_\_\_ inch diameter stress relieved strands in \_\_\_ O.D. ducts was assumed in the design.

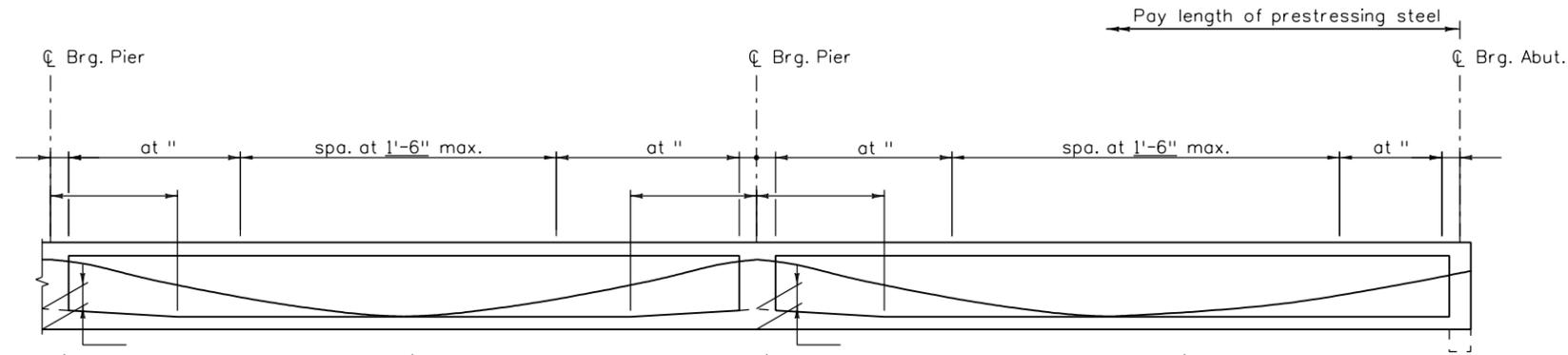
P(JACK) = \_\_\_\_\_ KIPS total at jacking ends  
 $A_s^*$  MINIMUM = \_\_\_\_\_ SQ. IN.  
 $f'_s$  = 270 KSI  
 $f'_c$  = 4500 PSI at 28 days field compressive strength  
 $f'_{ci}$  = 3500 PSI at stressing

◆ Designates critical points for P(JACK). The Contractor shall submit elongation and jacking calculations based on  $KL+\mu\alpha$  (including anchor set if any) and initial stress (initial stress ratio times jacking stress before long term losses) at the points labeled "◆" and tabulated below.

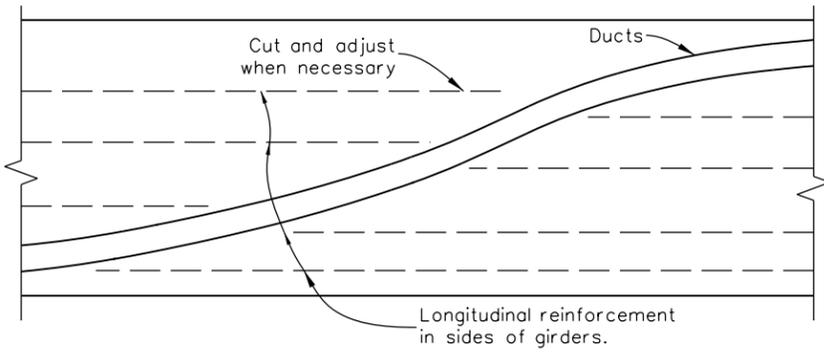


\*Place #5 in exposed exterior face of exterior girder at 18" in areas not otherwise reinforced by stirrups.

Point	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	3.00	
H																						
X																						
Deflection	0.00'										0.00'											0.00'



Point	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	5.00	
H																						
X																						
Deflection	0.00'										0.00'											0.00'



**WEB ELEVATION**  
(At C web)

CRITICAL POINT ◆	KL+ $\mu\alpha$	INITIAL STRESS RATIO
1.	0.	0.
2.000	0.	0.
2.500	0.	0.
3.000	0.	0.
3.	0.	0.
4.000	0.	0.
4.	0.	0.

Revision Dates	(Preliminary Stage Only)	DATE	BY
7/92		7/92	XXX
8/94		8/94	XXX
8/96		8/96	XXX
3/99		3/99	XXX
11/99		11/99	XXX
4/02		4/02	XXX
3/07		3/07	XXX
10/13		10/13	XXX

Design	DATE	INITIAL	DATE	INITIAL
Designed By	MM/YY	XXX	MM/YY	XXX
Checked By	MM/YY	XXX	MM/YY	XXX

Print Date: \$DATE\$
File Name: Sheet_B-618-1.dgn
Horiz. Scale: NTS      Vert. Scale: As Noted
Staff Bridge Branch - Unit 022X    Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

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<b>As Constructed</b>
No Revisions:
Revised:
Void:

<b>CAST-IN-PLACE POST-TENSIONED BOX-GIRDER DETAILS</b>			
Designer:	XXXXXXXX	Structure	X-XX-XX
Detailer:	XXXXXXXX	Numbers	X-XX-XX
Sheet Subset:	BRIDGE	Subset Sheets:	BXX of XXX

<b>Project No./Code</b>
Project Number
Code
Sheet Number